

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CALLAWAY GOLF COMPANY,

Plaintiff,

v.

ACUSHNET COMPANY,

Defendant.

C. A. No. 06-91 (SLR)

PUBLIC VERSION

**DECLARATION OF THOMAS L. HALKOWSKI IN SUPPORT OF
CALLAWAY GOLF'S OPPOSITION TO ACUSHNET'S
MOTION FOR SUMMARY JUDGMENT OF INVALIDITY**

I, Thomas L. Halkowski, declare as follows:

1. I am a principal of Fish & Richardson P.C., counsel of record in this action for Callaway Golf Company. I am a member of the Bar of the State of Delaware and am admitted to this Court. I have personal knowledge of the matters stated in this declaration and would testify to them under oath if called upon to do so.

2. Attached hereto as **Exhibit 1** is a true and correct copy of a *Golf Magazine* article titled "Great Leaps Forward," by C. Morfit.

3. Attached hereto as **Exhibit 2** is a true and correct copy of excerpts from the deposition transcript of William MacKnight taken in this matter on August 8, 2007.

4. Attached hereto as **Exhibit 3** is a true and correct copy

REDACTED

5. Attached hereto as **Exhibit 4** is a true and correct copy of excerpts from the deposition of Chris Cavallaro taken in this matter on April 18, 2007.

6. Attached hereto as **Exhibit 5** is a true and correct copy of excerpts from the deposition of Dean Snell taken in this matter on April 5, 2007.

7. Attached hereto as **Exhibit 6** is a true and correct copy of excerpts from the deposition of Robert Statz taken in this matter on July 31 and August 1, 2007.

8. Attached hereto as **Exhibit 7** is a true and correct copy of excerpts from the deposition of David Bulpett taken in this matter on May 25, 2007.

9. Attached hereto as **Exhibit 8** is a true and correct copy of a declaration submitted by William Morgan in the *Bridgestone v. Acushnet* matter, dated February 20, 2007.

10. Attached hereto as **Exhibit 9** is a true and correct copy of a declaration submitted by Gerald Bellis in the *Bridgestone v. Acushnet* matter, dated February 20, 2007.

11. Attached hereto as **Exhibit 10** is a true and correct copy

12. Attached hereto as **Exhibit 11** is a true and correct copy of

13. Attached hereto as **Exhibit 12** is a true and correct copy of *USA-Today* article titled "New-Generation Ball Shaking Golf to the Core," by Jerry Potter, dated March 14, 2001. (CW280202-05.)

14. Attached hereto as **Exhibit 13** is a true and correct copy of

15. Attached hereto as **Exhibit 14** is a true and correct copy of

16. Attached hereto as **Exhibit 15** is a true and correct copy of a article entitled "A Fab Five for the Pro V1" by James Achenbach. (AC89543.)

REDACTED

17. Attached hereto as **Exhibit 16** is a true and correct copy of

REDACTED

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 20th day of August, 2007 at Wilmington, Delaware.

/s/ Thomas L. Halkowski

Thomas L. Halkowski

CERTIFICATE OF SERVICE

I hereby certify that on August 24, 2007, the attached document was electronically filed with the Clerk of Court using CM/ECF which will send electronic notification to the registered attorney(s) of record that the document has been filed and is available for viewing and downloading.

I hereby certify that on August 24, 2007, I have Electronically Mailed the document to the following person(s):

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INNOVATIONS

GREAT LEAPS FORWARD

THE EVOLUTION OF A GAME: 1890-TODAY

From persimmon woods to ProVis, the modern era has spawned hundreds of important equipment innovations. Here are several groundbreakers that made the game more fun—and a whole lot easier.

By Cameron Morfit

Photography by Jeff Ellis

Titanium Driver



Rubber-cored Ball



Hybrid Club



Oversized Driver

Steel Shaft



Plastic Spike



Two-piece Ball



Cavity-back Iron

Sand Wedge



Persimmon Wood



Multilayer Ball

Turn over
for our
special
foldout

GREAT LEAPS FORWARD

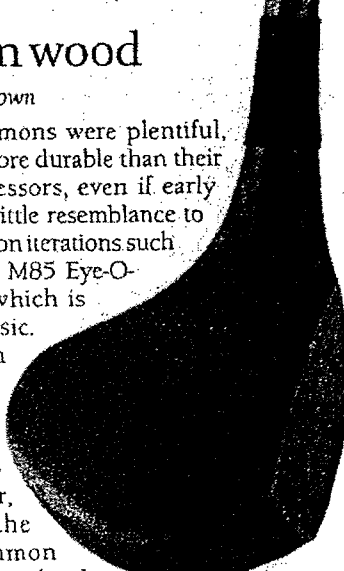
1890s

Persimmon wood

INNOVATOR: Unknown

■ The first persimmons were plentiful, beautiful and way more durable than their birch-wood predecessors, even if early models [right] bore little resemblance to more artful persimmon iterations such as MacGregor's MT M85 Eye-O-Matic (1952-55), which is considered the classic.

In 1987, persimmon woods were hanging on. (Louisville Golf still cranked out 4,000 clubs a week.) But a decade later, when the last of the superstar persimmon devotees—Justin Leonard and Davis Love III among them—switched to metal, the persimmon era ended.

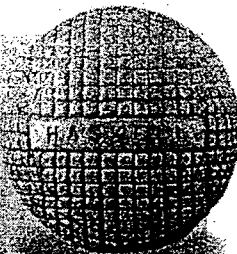


1898

Rubber-cored ball

INNOVATOR: Caburn Haskell

■ The wound-rubber Haskell ball [above] ended the gutta-percha's long reign in 1898. It caught fire in 1901, after its success in both the U.S. and British Opens. Built from a rubber core wrapped in a rubber thread encased in a gutta-percha sphere, the Haskell flew 20 yards longer than traditional "gutties." In 1908, William Taylor improved the design when he added dimples which helped reduce drag and maximize lift. The modern golf ball was born.



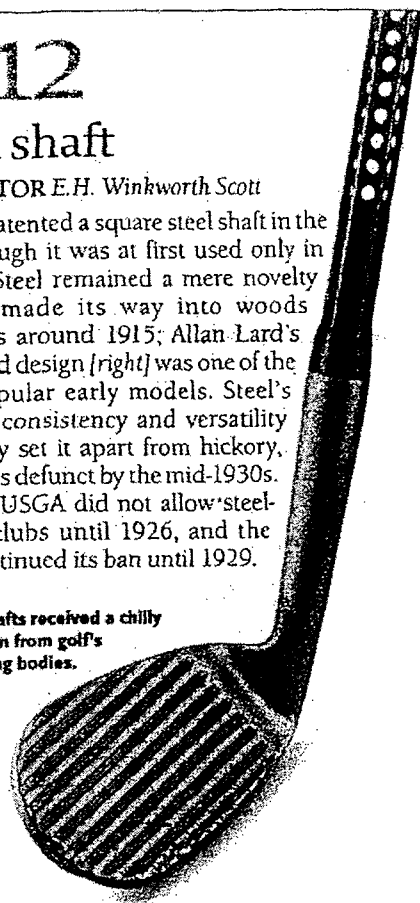
1912

Steel shaft

INNOVATOR E.H. Winkworth Scott

■ Scott patented a square steel shaft in the U.K., though it was at first used only in putters. Steel remained a mere novelty until it made its way into woods and irons around 1915; Allan Lard's perforated design [right] was one of the most popular early models. Steel's stability, consistency and versatility eventually set it apart from hickory, which was defunct by the mid-1930s. Still, the USGA did not allow steel-shafted clubs until 1926, and the R&A continued its ban until 1929.

Steel shafts received a chilly reception from golf's governing bodies.

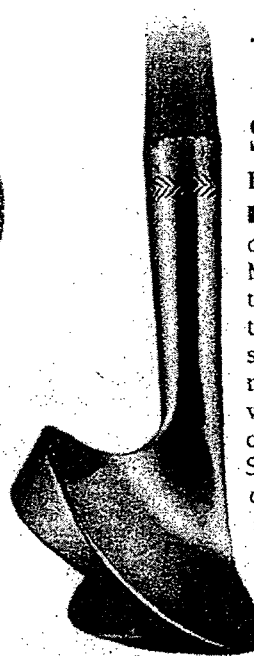


1928

Sand wedge

INNOVATOR: Edwin MacClain

■ Although Gene Sarazen is often credited for this invention, MacClain was the first to patent the concave-face technology [left] that helped dig the ball out of the sand. Bobby Jones proved as much when he used a sand wedge at the 1930 British Open on his way to winning the Grand Slam. Sarazen then tweaked the design, adding a generous flange and extra weight, and won the 1932 U.S. and British Opens before his wildly popular Wilson R-90 hit the market a year later.



THE EVOLUTION OF GOLF

Sticky business:
Golf Pride's first
ravel-free grips.



1963

Rubber grip

INNOVATOR: *Golf Pride*

■ Golf Pride's slip-on Victory grip [above] wasn't necessarily any easier to attach than wrapped leather—but it never unraveled. It also was conducive to a diagram of the proper grip and much easier to mass-produce, leading to lower prices for the consumer and bigger profits for Golf Pride, and later, its pitchman Ken Venturi.

1967

Modern solid-core, two-piece ball

INNOVATOR: *Spalding*

■ The company's popular Executive model [below], which spun less and lasted longer, made the game more affordable to the masses. The Executive ball led to the introduction of Spalding's more popular Top-Flite, which featured a more durable synthetic cover. The Executive's two-piece, solid-core construction is still in use today.

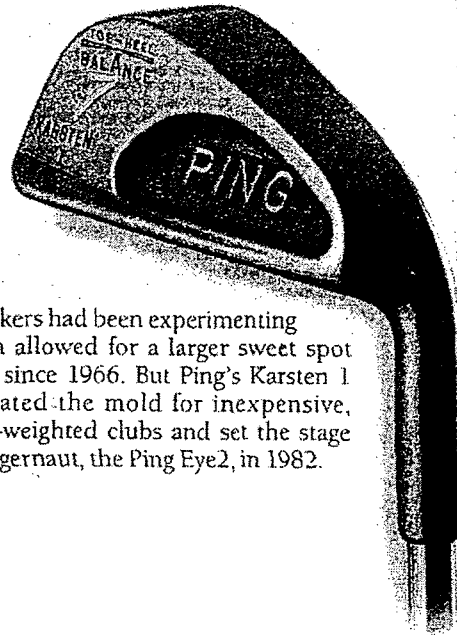


1968

Mass-marketed cavity-back iron

INNOVATOR: *Ping*

■ American iron makers had been experimenting with casting, which allowed for a larger sweet spot than forged blades, since 1966. But Ping's Karsten 1 casting [above] created the mold for inexpensive, forgiving, perimeter-weighted clubs and set the stage for a commercial juggernaut, the Ping Eye2, in 1982.

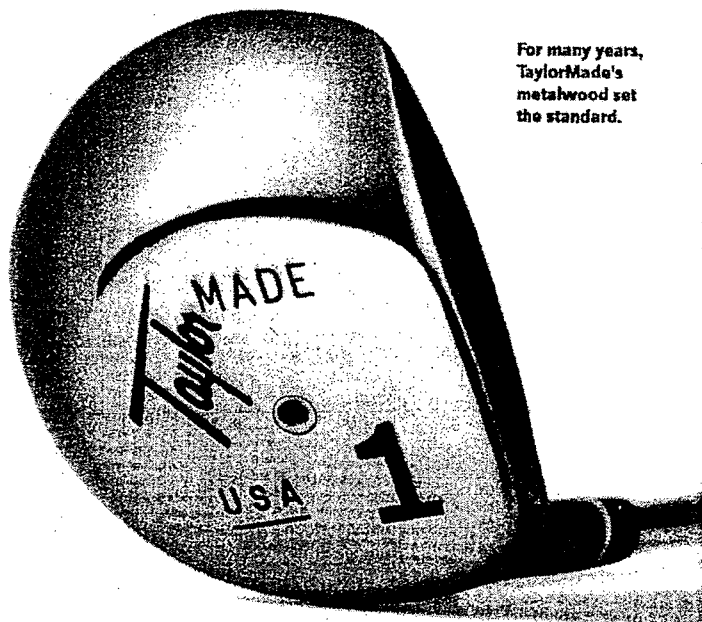


1979

Mass-marketed metalwood

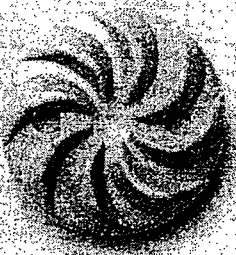
INNOVATOR: *TaylorMade*

■ Eighty-eight years after the first metalwood, TaylorMade's traditional-shaped metal driver [below], designed by Gary Adams, minimized the damage on heel-toe hits and eclipsed Scotsman William Currie Jr.'s innovative gunmetal 1891 design and Pinseeker's 1976 attempt. Ron Streck became the first PGA Tour pro to play the club, and TaylorMade ruled the metal market for the next 12 years.



For many years,
TaylorMade's
metalwood set
the standard.

GAME 1890-PRESENT



1992

Plastic spikes

INNOVATORS:
Faris McMullin
and Ernie Deacon

■ Easier on your back, gentler on your greens (especially if Vijay Singh is playing in the group behind you in the Masters) and less lightning-friendly, soft spikes [above] changed the game from the ground up. The original fan-like spiral design, later acquired and marketed by Softspikes, was dreamed up by the Boise, Idaho, tandem of McMullin and Deacon after several Western golf associations enforced a winter spike ban. Wynstone Golf Club in Illinois led the way in banning metal spikes.



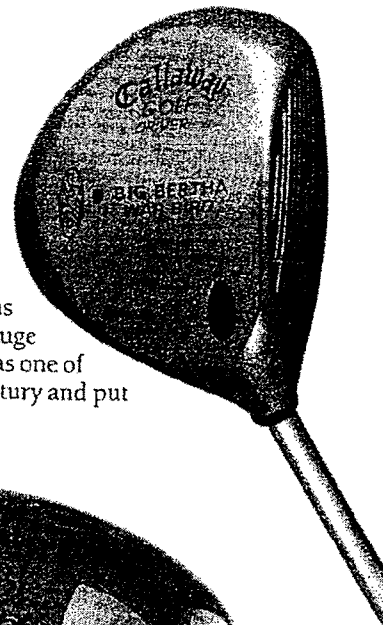
Bertha was big, though she'd soon get much bigger.

1991

Oversized driver

INNOVATOR: Callaway

■ It didn't have a dimpled head like TaylorMade's earliest effort, but the first thin-walled, oversized steel driver, named for a German cannon in World War I, was supremely easy to hit thanks to its huge sweet spot. The original Bertha [right] was one of the most influential clubs of the last century and put Callaway on the golf equipment map.



Burn, baby, burn!
TaylorMade's first
titanium driver lit
up the market.

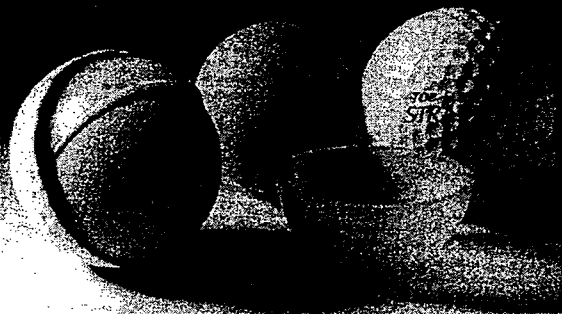
1995

Titanium driver

INNOVATORS: Callaway and TaylorMade

■ By the mid-1990s, drivers generated 20 percent more profit for manufacturers than other clubs, thanks in large part to the introduction of titanium, a lighter, stronger-than-steel material that allowed manufacturers to build bigger clubheads with thinner walls. Callaway's Big Bertha [left] and the TaylorMade Burner [above] led the way, but Cleveland, Cobra, Titleist, Nike and Ping also joined the party, doubling their combined market share to 28 percent from 1999 to 2004.

The Strata flew long
and checked hard.



1996 Multilayer ball

INNOVATOR: *Top-Flite*

■ Soon after its introduction, Top-Flite's Strata [left] garnered a dedicated following where it counts most: on the PGA Tour. Jim Furyk and Hal Sutton were among the big names to recognize the high-tech breakthrough of golf's first multilayered ball, which flew farther than pillowy-soft balatas but was just as obedient on the greens.

TaylorMade rescued
many a round with
this spiffy spoon.



1999 Mass-marketed hybrid club

INNOVATOR: *TaylorMade*

■ With its popular Rescue hybrid club [above], TaylorMade took an old concept and made it better, in this case Spalding's XE model (1986-88), a full set of clubs defined by their low-profile, wide-sole design to help get the ball airborne, and even out of the rough—attributes that would come to define the hybrid/utility club. William Mills, of Standard Golf, predated both TaylorMade and Spalding with an aluminum-headed model with features of both irons and woods in the early 1900s.

2000 Urethane-covered three-piece ball

INNOVATOR: *Titleist*

■ Tiger Woods switched from a wound-construction Titleist ball to a two-piece Nike in May 2000 and blew away the competition to win four straight majors through the 2001 Masters. But Titleist's answer, the Pro V1 [below], proved more dominant than Tiger himself. With its superior mix of distance and control around the greens, the ball signaled doom for the wound ball as it became the industry leader almost the minute it entered the market in the fall of 2000.



Photography from
Jeff Ellis
The Clubmaker's Art

INNOVATIONS CLUB DREAD

For every two-piece ball and titanium driver that revolutionized the game, there have been thousands of innovations that failed to take flight. Here are some of our favorites.



The anti-slice driver

■ In the late 1920s, the Arden Company hyped this Jaws look-alike as the ultimate anti-slice driver. The wings were built to stabilize the club through impact and the fin improves lateral stability. Too bad, Greg Norman wasn't around to promote it.



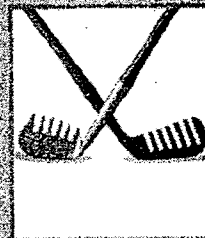
The forked shaft

■ Isaac Palmer's forked shaft driver and iron from 1901 hinged on his contention that extending the shaft to both the heel and toe would reduce clubhead twist at impact. The clubs were a bust, but Palmer didn't give up; his fork-hoel putter was a hit a few years later.



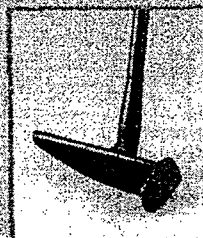
The adjustable-weight putter

■ If you think your TaylorMade driver is cutting edge with its moveable weights, then you weren't alive in the '20s. About 80 years ago, this MacGregor putter came with a set of lead weights, and the cylinder doubled as an alignment aid.



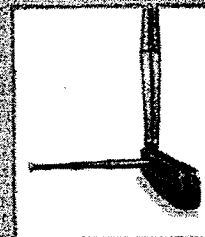
The rake

■ These toothy irons from around 1910 were built to help golfers get out of sand or casual water. Decades later, Arthur Fonzaelli created a new demand for them when he started carrying one in his back pocket.



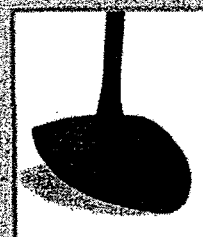
The alignment bar putter

■ The take extending from the back of the putterface on this Arthur Hardingham design from 1905 was helpful for lining up putts—and picking ice. The back of the alignment bar curved up to prevent the club from nicking the ground during the backstroke.



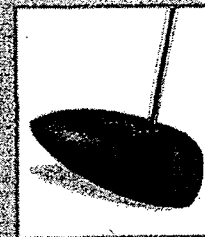
The telescopic putter

■ Designed by George Rees in 1916, this club would have been right at home in Inspector Gadget's golf bag. The telescoping alignment rod collapsed and swung into a cavity hidden in the back of the blade.



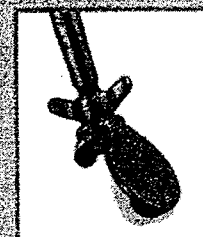
The Simplex

■ This wooden mallet, patented by Francis Brewster in 1897, was from a family of clubs designed to take the place of irons. Brewster believed that if aligning the shaft directly behind the center of impact worked for hammers, it should work for golf clubs, too.



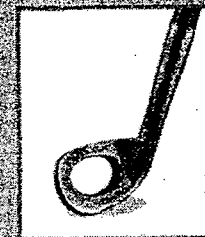
The Streamliner driver

■ This sleek, compact driver from 1937 concentrated all its weight directly behind the ball. One problem: It was about as forgiving as a stood-up prom date. ("Oh, baby, forgive us. We totally thought the prom was tomorrow night.")



The adjustable-loft iron

■ Why carry an entire set? By turning the wing nut on the hosel of this do-it-all club from 1900, you could hit any iron you wanted. Though a clever concept, this design was doomed when it was named "Greatest Club of the Century" in 1901.



The ring mashie

■ W.G. Roy dreamed up this bagel-iron in 1876 to help golfers escape from water, casual or otherwise. Roy's iron quickly proved impractical, however, as it was almost impossible to avoid striking the ball twice, an infraction that results in loss of hole.

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CALLAWAY GOLF COMPANY,
Plaintiff,

VS C.A. No. 06-91 (SLR)

ACUSHNET COMPANY,
Defendant.

VIDEOTAPED DEPOSITION OF WILLIAM J. MacKNIGHT
Boston, Massachusetts
Thursday, August 2, 2007

Court Reporter:
Loretta Hennessey
RDR, CRR
JOB No. 69926

1 Q. Did you bring any documents or presentations
2 with you to the meeting?

3 A. I don't recall. I don't believe that I did.

4 Q. You showed up empty-handed?

5 A. I don't recall that.

6 Q. You testified you're not sure exactly who came
7 up with the idea to make these golf balls you
8 described, correct?

9 A. Correct.

10 Q. Do you recall who came up with the idea of what
11 tests to run on those golf balls?

12 A. No.

13 Q. Do you recall who came up with the idea of how
14 to do those tests?

15 A. No, I don't.

16 Q. After your meeting with Mr. Lester and Mr.
17 Dalton, what tasks were assigned to you as a
18 result of that meeting?

19 A. I was assigned the task to direct the
20 preparation and testing of the golf balls which
21 are described in the patents which I have in my
22 declaration, and that's what I did.

23 Q. Okay. Were you assigned that task by Mr.
24 Lester or Mr. Dalton?

25 A. I believe that there was an interaction between

1 Mr. Lester and Mr. Rosenthal, and that they
2 probably made the final decision, but I can't
3 recall exactly which one.

4 Q. That is Mr. Rosenthal, the lawyer from Howrey?

5 A. I think so, yes.

6 Q. Given that you were assigned the task of
7 directing the preparation and testing of these
8 golf balls, what was your plan to complete that
9 task?

10 A. Well, as it turned out, as noted in Paragraph
11 7, for example, we did, at my direction,
12 several things. The golf balls were made at
13 the Acushnet Research and Development Center,
14 and they were then tested for flexural modulus
15 and hardness, in some cases flexural modulus,
16 but mainly hardness, at plastics testing.

17 And I should be careful not to
18 misspeak. Clearly it's difficult to test a
19 golf ball for flexural modulus. What you do is
20 you test the material that goes into the
21 construction.

22 Q. In Paragraph 7 of your declaration, you refer
23 to these technical personnel at Acushnet's R&D
24 Department?

25 A. Yes.

1 Q. Who were those personnel?

2 A. They were directed by Mr. Dalton. I do not
3 recall or may never have known the names of any
4 others that were associated with it.

5 Q. That is, these personnel were people who worked
6 for Jeff Dalton?

7 A. That is my understanding.

8 Q. These technical personnel who created the golf
9 balls, did you ever meet with any of them about
10 that task?

11 A. I had a tour of the facilities when you had
12 this meeting with Mr. Lester and Mr. Dalton,
13 and I'm sure that I met some of them then.
14 What specific ones and what specific tasks they
15 performed, I don't know.

16 Q. The personnel who created these golf balls, you
17 never directly told them to do that, right?

18 A. I worked through Mr. Dalton.

19 Q. And were you present when these personnel made
20 these golf balls?

21 A. No, I was not.

22 Q. Was Mr. Dalton present when the golf balls were
23 made?

24 A. I don't know.

25 Q. So in Paragraph 7 where you said, "At my

1 direction, technical personnel at Acushnet's
2 Research and Development department created
3 several golf balls," you weren't directing
4 these personnel directly, correct?

5 A. My role was to agree or decide or suggest the
6 golf balls' compositions, and then have them
7 prepared at Acushnet. So I didn't direct them
8 personally, no, in the sense of being present.

9 Q. In the next sentence you say, "In particular, I
10 directed the preparation of 12 samples each of
11 nine constructions of golf balls"?

12 A. Right.

13 Q. What do you mean there by you "directed the
14 preparation"?

15 A. Well, again, I asked them to create those golf
16 balls.

17 Q. Asked who specifically?

18 A. Mr. Dalton.

19 Q. And Mr. Dalton in turn turned this request over
20 to his personnel?

21 A. That I don't know.

22 Q. Now, Mr. Dalton didn't create the golf balls
23 himself, did he?

24 A. I don't know.

25 MR. BRANNON: Calls for speculation.

1 Q. He might have?

2 A. Again, I have no way of knowing.

3 Q. After these golf balls were created, did you
4 have any further discussions with Mr. Dalton?

5 A. Yes.

6 Q. Regarding what?

7 A. Well, regarding the tests themselves, and this
8 took place at a second meeting at the plastics
9 testing facility which were used.

10 Q. That's the facility known as PTLI?

11 A. That's correct.

12 Q. Where is their facility located?

13 A. Pittsfield, Massachusetts.

14 Q. After your golf balls were created, did you
15 have any discussion with Mr. Dalton about how
16 they had been created?

17 A. I don't recall specifically, but I think we
18 did.

19 Q. What did you do to insure that the balls had
20 been prepared the way you had instructed them
21 to be?

22 A. I took Mr. Dalton's word for it.

23 Q. And he said that they had been prepared in the
24 manner that you had directed?

25 A. Correct.

1 Q. Did you perform any inspection of the balls
2 after they had been created?

3 A. Other than visual inspection of the balls,
4 which I did, that was the only thing.

5 Q. Okay. You looked at the balls?

6 A. I did.

7 Q. Did you handle them?

8 A. I did.

9 Q. Did these balls have dimples?

10 A. They did.

11 Q. Were they painted?

12 A. Yes, they were.

13 Q. Where did you conduct your inspection of these
14 balls?

15 A. At the PTLI facility.

16 Q. Do you recall the date of that inspection?

17 A. I don't. But I'm going to say probably
18 sometime in late May.

19 Q. At the time you inspected the balls that had
20 been created by the Acushnet R&D personnel, how
21 long had it been since those balls had been
22 finished?

23 A. If I recall correctly, it was a matter of a
24 week or thereabouts.

25 Q. Where had those balls been kept in the week or

1 so after their creation and before your
2 inspection of them?

3 A. My understanding was that they were kept at the
4 Acushnet facility and then transported to PTLI.

5 Q. Do you have any knowledge of how those balls
6 were kept at the Acushnet facility; that is,
7 under what conditions or where or how?

8 A. I believe we discussed that, but I don't recall
9 it, so the answer is no, I don't.

10 Q. In Paragraph 7 of your declaration, you remark
11 that there were nine golf ball constructions
12 that you directed the creation of. Who
13 directed what those nine constructions would
14 be?

15 A. Well, again, I think we've already been through
16 that. To the best of my knowledge it was a
17 iterative process which involved myself, Mr.
18 Rosenthal, Mr. Lester and Mr. Dalton.

19 Q. Was there any special significance to selecting
20 the number 12 as the number of samples to be
21 made from each construction?

22 A. There wasn't a great deal of significance. We
23 wanted something which would be reasonable
24 statistically, and also the number 12 was
25 mentioned in one of the patents, I believe the

1 of polybutadiene, and using the same units, you
2 would put in those amounts of the other
3 materials. So that means you would put in,
4 using those same units, .5 of the Papi. And if
5 you wanted to make twice as much, of course you
6 would double everything. That's how it works.

7 Q. So the .5 is just an arbitrary unit meaning
8 grams or kilograms or --

9 A. Right. It's not a percentage; it's just a
10 parts by weight. Sometimes they use parts by
11 hundred, this is parts by weight.

12 Q. Before this project, were you familiar with the
13 convention of formulating compositions by
14 weight?

15 A. Well, I was of course generally familiar with
16 it. I wouldn't use it scientifically in a
17 paper, but of course I had come across it in my
18 consulting business, and also, as I mentioned,
19 in cooking in the recipes in the kitchen.

20 Q. Prior to undertaking this project with
21 Acushnet, had you ever been involved in making
22 golf balls before?

23 A. I had never been involved in making golf balls,
24 no.

25 Q. Did you have any involvement with the design or

1 construction of golf balls before this
2 engagement with Acushnet?

3 A. Not directly. I was involved in a prior
4 litigation involving golf balls between
5 Acushnet and the predecessor company, Spalding,
6 but I've never done any research work along the
7 lines that you mentioned or technological work.

8 Q. Do you have any idea why Acushnet selected you
9 as the consultant to direct this work?

10 A. Well, let me back, first say that I am a
11 materials expert in this sense; polymer science
12 and engineering expert, if you like, more
13 broadly. And specifically, I am very
14 experienced with both ionomers and
15 polyurethanes, through my own research work,
16 through my consulting and other things.

17 And since those materials seem to be
18 quite relevant to a number of the issues
19 involved in this case, I was not terribly
20 surprised that they would have selected me for
21 that.

22 Q. Did you have any concerns about being selected
23 to direct the construction of golf balls,
24 having never done that kind of work before?

25 A. No, because my main role was in the properties

1 of the materials that went into the
2 construction, not the golf balls themselves.

3 Q. So with respect to the making of the golf balls
4 themselves, did you have any input or direction
5 as to how exactly they were constructed rather
6 than the materials they were constructed out
7 of?

8 A. I left the details to Mr. Dalton.

9 Q. Whose idea was it to have these test golf balls
10 made in Acushnet's own laboratories?

11 A. Well, I can't recall exactly on that either,
12 but it must have come up in the meeting that we
13 had with those personnel. And, again, it may
14 also have involved Mr. Rosenthal. But to give
15 the short concise answer, I can't -- I don't
16 really know.

17 Q. The meeting you're referring to is your meeting
18 with Mr. Lester and Mr. Dalton?

19 A. That's right.

20 Q. Was there ever any discussion of having an
21 outside laboratory fabricate these golf balls?

22 A. I don't recall.

23 Q. You don't know if it was ever considered to
24 have an outside laboratory fabricate these golf
25 balls?

1 A. Strictly speaking, I don't, no.

2 Q. In other words, if it was ever considered, no
3 one ever told you they were considering it?

4 A. That is not what I said.

5 Q. Well, but that's what I asked.

6 A. All right then, I'll answer what you asked, or
7 try to, at least.

8 I think, and I'm almost speculating
9 now, that I brought up the idea, or perhaps
10 they did, but someone did, of having an outside
11 outfit prepare the golf balls.

12 Q. Do you recall what the resolution of that idea
13 was?

14 A. Well, the result was it was done in-house, so
15 it must have been decided to do it in-house.

16 Q. Okay. So somebody mentioned the possibility of
17 doing it with an outside laboratory, but that
18 idea was rejected in favor of doing it
19 in-house?

20 A. I'm not sure that it was even raised to the
21 point of an either/or type of thing, but
22 certainly I can state almost certainly that the
23 idea was mentioned, and that the resolution was
24 to do it in-house. That's as much as I
25 remember.

1 Q. The personnel who made these golf balls got
2 their instructions from Mr. Dalton who got them
3 from you; is that right?

4 A. Right.

5 Q. And by "instructions," I mean the instructions
6 to make certain types of balls rather than how
7 to make them. So let me ask a different
8 question.

9 The direction that came from you to
10 the people who actually made the balls was what
11 kind of balls to make, correct?

12 A. Correct.

13 Q. You did not direct how to make those balls,
14 correct?

15 A. No.

16 Q. Were you present when Mr. Dalton relayed your
17 instructions to his personnel?

18 A. No, I was not.

19 Q. Do you know how he gave them those
20 instructions?

21 A. No.

22 Q. Do you know if he created any documentation
23 memorializing those instructions?

24 A. No.

25 Q. Did you create any documents regarding your

1 instructions to Mr. Dalton?

2 A. No.

3 Q. Let's turn to Paragraph 8, Page 3 of your
4 declaration. The first sentence of Paragraph 8
5 says, "I directed the preparation of two types
6 of golf ball core materials."

7 Who selected these two types of golf
8 ball core materials to be made?

9 A. The eternities -- attorneys, excuse me.

10 Q. Do you know how they made that selection?

11 A. To some extent, yes.

12 Q. Can you explain your understanding of that?

13 A. Yes. The core that we're looking at -- well,
14 let me be more specific. On Page 8 there's a
15 table which discloses a composition of a core,
16 and that was taken from the Sullivan patent
17 which is abbreviated as '293.

18 Q. Okay. So the table on Page 3 is a core
19 composition described in the Sullivan '293
20 patent?

21 A. Yes.

22 Q. It's not described in the Nesbitt '193 patent,
23 right?

24 A. That's correct.

25 Q. Okay. So what do you mean when you say in

1 Paragraph 8, "The first golf ball core material
2 is based on the disclosure of Nesbitt '193"?

3 A. As I state further down the page, Sullivan
4 described the core which is set forth in the,
5 the composition of which is set forth in the
6 table as being representative of the Nesbitt
7 '193 patent and as the prior art ball of the
8 Nesbitt '193 patent. That is my understanding
9 of the basis for using that core in that
10 context.

11 Q. So without the Sullivan patent's description,
12 how would you know what kind of core the
13 Nesbitt '193 patent contemplated?

14 A. You wouldn't know directly, other than that he
15 just mentions a solid core, which is all he
16 says. He doesn't give a detailed recipe for a
17 particular core.

18 Q. Do you have any understanding of why Mr.
19 Sullivan in his patents characterized the
20 Nesbitt core the way he did?

21 A. Actually, I do not. I assume he has some
22 knowledge which I don't, and I took it as read.

23 Q. Have you ever spoken to Michael Sullivan?

24 A. Many times.

25 Q. Have you ever spoken to Dennis Nesbitt?

1 the legal terms mean.

2 Q. I've always used them interchangeably.

3 A. Okay. Then that would be correct.

4 Q. Okay. Do you remember what the substance of
5 your affidavit was?

6 A. Honestly, I don't, but it had to do with an
7 identical composition of matter arrived at by
8 preparing ionomer blends in different ways.
9 Let's put it -- that's vague, but, I'm sorry,
10 that's the best I can do.

11 Q. I understand. It's kind of a long time ago.

12 Oh, before I go on, have you ever
13 met or spoken to Terry Melvin?

14 A. No.

15 Q. Okay. Well, then, I don't need to ask any more
16 questions about him.

17 Let's go back to your declaration,
18 paragraph 10 on Page 4.

19 A. Yes.

20 Q. Paragraph 10, you say, "I directed the
21 preparation of three inner cover layer
22 materials." Who selected those materials?

23 A. The attorneys.

24 Q. Similarly, let's turn to page 5, Paragraph 13
25 where you say, "I directed the preparation of

1 three outer cover layer materials." Who
2 selected those materials?

3 A. The attorneys.

4 Q. So the selection of the core materials, inner
5 cover materials and outer cover materials in
6 the golf balls you made were all made by
7 attorneys, correct?

8 A. Correct.

9 Q. Those were the attorneys at the Howrey law
10 firm?

11 A. Correct. That would be specifically Mr.
12 Rosenthal.

13 Q. Given that Mr. Rosenthal selected the materials
14 for the core and cover layers of these golf
15 balls, what was your responsibility related to
16 the creation and testing of these golf balls?

17 A. My responsibility was to see that the testing
18 was carried out properly and that true
19 experimental results were obtained from it.

20 Q. Did you direct in any way the selection of
21 materials or manner of construction for these
22 golf balls?

23 A. We discussed some of that before. I was
24 certainly consulted about some of the issues
25 involved, and that's what I can say.

1 Q. And you testified that other than the Papi 94
2 issue, you were not otherwise consulted about
3 how to construct the golf balls?

4 MR. BRANNON: Objection,
5 mischaracterizes.

6 A. The injection molding issue, for example.

7 Q. That's correct.

8 A. Another issue --

9 Q. Other than the Papi 94 and injection molding
10 issue, were there any other ways --

11 A. Yes.

12 Q. -- in which you were consulted about the
13 construction of the golf balls?

14 A. Yes, whether they should be painted or not.

15 Q. Did you make a decision on that issue?

16 A. I had an input on that issue.

17 Q. What was your input?

18 A. I decided that it should, in my opinion.

19 Q. Why?

20 A. Because I thought, and this is based on limited
21 knowledge, that we wanted to make as realistic
22 a golf ball as we could.

23 Q. Were there any other ways in which you
24 contributed input as to how the golf balls were
25 to be created?

1 A. No.

2 Q. Did anyone else mention the significance of
3 having a foamed cover as opposed to one that
4 wasn't?

5 A. No, other than the general idea that a foamed
6 cover would be not as hard as a non-foamed
7 cover, softer than a non-foamed cover.

8 Q. Okay. To your knowledge, when your test golf
9 balls were made, were there any measures taken
10 to ensure that the Molitor '637 covers had a
11 cellular or foamed structure?

12 A. No.

13 Q. And so sitting here today, you don't know
14 whether those '637 covers actually were or were
15 not cellular, that is in the golf balls you
16 describe in your report?

17 A. Were, yeah, or foamed, if you like. There was
18 a blowing agent in there, and I assume that
19 they probably were, but I don't know.

20 Q. Can we turn to Paragraph 17 of your
21 declaration. You state there that you directed
22 Acushnet personnel to make a ball having an
23 outer cover layer of .0575 inches. Do you see
24 that?

25 A. I do.

1 Q. And in the construction described in Paragraph
2 17, that outer cover layer is the so-called
3 Molitor '637 outer cover layer material, right?

4 A. Say that -- excuse me, could you say that
5 again?

6 Q. In the golf ball described in Paragraph 17, the
7 outer cover layer material is what you call the
8 Molitor '637 material, right?

9 A. Correct.

10 Q. To your knowledge, did Acushnet's personnel
11 encounter any problems making the outer cover
12 layer of this ball, the cover that comprises
13 the '637 material?

14 A. I was not made aware of any problems in
15 formulating any of the balls.

16 Q. Towards the bottom of the paragraph, it says,
17 "Nesbitt 193 also describes an outer cover
18 layer whose thickness is .0575 inches." Do you
19 see that?

20 A. I do.

21 Q. Who selected the thickness of the outer cover
22 layer for the ball described in Paragraph 17?

23 A. Well, again, the attorneys selected that.

24 Q. Okay. So the attorneys selected the cover
25 thicknesses for all the balls described in your

1 report?

2 A. I believe so, yes.

3 Q. Did you advise the attorneys in any way on how
4 to select those cover thicknesses?

5 A. They were generally selected on the basis of
6 what was discussed in the patents, so I checked
7 through the patents so see that the figures
8 were consistent with what was reported.

9 Q. Let me ask you a very general question.

10 A. Yes.

11 Q. Do you have any opinions regarding whether the
12 Sullivan patents at issue in this case are
13 valid or not?

14 MR. BRANNON: Objection; calls for a
15 legal conclusion.

16 A. I do not have any opinions.

17 Q. Have you ever been asked to formulate an
18 opinion as to whether the patents in suit are
19 valid?

20 A. No.

21 Q. What is your understanding of how your work in
22 this case relates to the question of validity?

23 A. My understanding is that the results of the
24 tests which we performed are relevant to the
25 validity or invalidity of the patents.

1 Q. Relevant in what way?

2 A. I actually don't know in detail.

3 Q. Do you know generally?

4 A. I think it has to do with the fact that the
5 hardness results came out at a certain figure
6 which would be consistent with prior art
7 results.

8 Q. Let's turn to Page 11 of your declaration,
9 please. The table at the top of Page 11
10 discloses the core, inner cover and outer cover
11 compositions for the nine constructions you're
12 discussing, right?

13 A. Correct.

14 Q. Each of these balls represents some kind of
15 combination of the teachings of the prior art,
16 right?

17 A. That's correct.

18 Q. That is to say, none of these nine
19 constructions reflects purely a Nesbitt ball or
20 purely a Proudfit ball or purely a Molitor
21 ball, right?

22 A. I think that's correct. In as much as the
23 cores in some cases were not specified, it's
24 possible that some of them could be. For
25 example -- well, I'll leave it at that.

1 paragraph 30, are those related in any way to
2 the ASTM D2240 specification?

3 A. Yes. Except for the time period, they are in
4 fact contained within the ASTM specification.

5 Q. Does the D2240 specification provide any time
6 parameters for conditioning?

7 A. Not that I recall.

8 Q. You mentioned that changes in the hardness of
9 the layers would probably be minimal after one
10 or two weeks, right?

11 A. Correct.

12 Q. Why would two weeks be significant in that
13 respect?

14 A. Well, there's nothing of any absolute
15 significance. This is based on my experience
16 and knowledge of how ionomers and polyurethanes
17 behave.

18 Typically what happens is if there
19 is going to be a change in a property such as
20 hardness, it occurs fairly rapidly after the
21 material has been formulated, and subsequently
22 very, very slowly and over a long period of
23 time. So you would get something like, if you
24 like, a very rapid rise in the change. And it
25 may not be a big change, but whatever change is

1 going to take place takes place fairly rapidly.

2 So that in my judgment as an expert
3 in polymer science and polymer materials and
4 ionomers and polyurethanes in general, I would
5 judge the bulk of that process would take place
6 in the first week or two of the material being
7 formulated.

8 Q. When PTLI conducted the hardness measurements
9 on the surface of these test golf balls, were
10 you present during that testing?

11 A. No.

12 Q. So you didn't observe them doing it?

13 A. No, I didn't.

14 Q. Do you know what kind of durometer they used
15 for this testing?

16 A. Yes, I saw that, uh-huh.

17 Q. What kind of durometer was used for the
18 hardness testing of these balls?

19 A. Well, again, I know exactly what it is, but I,
20 to be careful, I would like to consult the
21 relevant document, which you might want to...

22 MR. BRANNON: Do you want to mark
23 that?

24 MR. SHUMAN: Yeah, this would be a
25 good time to mark that.

1 THE WITNESS: You might as well
2 bring that in.

3 Q. I'll just have to figure out where I put my
4 copies of it. It's this one, right?
5 (Indicating.)

6 A. That's correct.

7 MR. SHUMAN: All right. This will
8 be MacKnight Exhibit 4.

9 (Document marked as Exhibit 4
10 for identification.)

11 (Document exhibited to witness.)

12 A. Okay.

13 Q. Okay. So looking at MacKnight Exhibit 4, first
14 of all, what is Exhibit 4?

15 A. It's a report of data obtained by PTLI on some
16 of the golf balls in question and also on the
17 materials that went into making up the covers,
18 specifically the flexural moduli and the
19 hardness measurements.

20 Q. Okay.

21 A. It's incorporated in that all the hardness
22 measurements are in the table of my report.

23 Q. And these -- excuse me. Exhibit 4 represents
24 the testing results PTLI obtained upon your
25 personal request, right?

1 material.

2 And so what they did was they took
3 the materials which were in the form of films
4 which they received from Mr. Dalton and punched
5 out these disks and then used them to make the
6 measurements.

7 Q. I'm sorry, the disks were punched out of some
8 larger material?

9 A. Correct.

10 Q. What was the larger material?

11 A. The material that had been used to make the
12 golf ball covers, whatever they might be.

13 Q. Were these disks what we've been calling
14 plaques in the --

15 A. Yes.

16 Q. -- context of D2240?

17 A. Sure. Yes.

18 Q. How big were they?

19 A. I've forgotten.

20 Q. Any general idea?

21 A. No. Well, not huge, certainly, but big enough
22 to satisfy the specifications.

23 Q. Who did the punching out to form the disks?

24 A. PTLI.

25 Q. Where did they get the material from which they

1 created the disks?

2 A. From Mr. Dalton.

3 Q. In what form did Mr. Dalton provide them that
4 material?

5 A. A film.

6 Q. When you say "film," I'm thinking of something
7 thin.

8 A. Oh, no, no, I'm sorry. This is a polymer term.
9 A film can be anything from -- say a plaque, if
10 you like that terminology better.

11 Q. Okay. So Mr. Dalton provided PTLI sort of a
12 large plaque of material?

13 A. Right.

14 Q. And they punched these disks out of that?

15 A. Exactly.

16 Q. I see.

17 A. I'm sorry.

18 Q. Do you have any idea how that plaque from which
19 these disks were prepared was itself made?

20 A. No.

21 Q. But it was done by Mr. Dalton or his personnel?

22 A. Correct.

23 Q. Let me ask you this: In your report and
24 declaration that you've submitted in this case,
25 do you include anything that you would call an

1 opinion as opposed to a fact?

2 A. Well, that's an interesting thing. We were
3 discussing this. It seems to me it's more of a
4 factual report than it is an opinion report. I
5 don't really see any significant opinions in
6 it.

7 Q. Can you describe the process by which your
8 expert report and declaration were written?

9 A. Yes. It was an iterative process between
10 myself and Mr. Rosenthal in which we exchanged
11 drafts of portions of the report, amending and
12 editing as we did, as we went; and then finally
13 reaching a final state which you have in your
14 hand, which was then approved by me as my true
15 and correct declaration.

16 Q. Who did most of the typing of your report?

17 A. The final typing -- well, I think, as a matter
18 of fact, Mr. Rosenthal's office did most of the
19 typing.

20 Q. But you're satisfied that everything in here is
21 your opinion and that you believe it to be true
22 and correct?

23 A. I stand by it.

24 Q. Fair enough.

25 Let's turn back to your declaration,

1 Page 7, please. At the top of Page 7 is a
2 continuation of Paragraph 15 from the previous
3 page. The first full sentence there is, "These
4 Shore D hardness properties are consistent with
5 those set forth in the Dupont data sheet for
6 its Surlyn resins." Do you see that?

7 A. Yes.

8 Q. What Dupont data sheet are you referring to
9 there?

10 A. There are several Dupont data sheets referenced
11 in the patents, and this could be the one in
12 the Sullivan patent, I would have to go through
13 in detail and check it out, but it's in one of
14 the patents. But it's also true that from my
15 knowledge of Surlyn properties that I've seen
16 before, this is not inconsistent with that.

17 Q. In connection with preparing this declaration,
18 did you consult the Dupont data sheets you're
19 referring to?

20 A. I didn't directly. The only thing I consulted
21 were the patents.

22 MR. BRANNON: Objection,
23 mischaracterizes the report.

24 MR. SHUMAN: Well, I don't want to
25 do that. In fact, Mr. Brannon, can I ask you

1 hours.

2 Q. So the total amount that you've received or
3 expect to receive would be about thirty to
4 forty hours times 350 an hour?

5 A. Correct.

6 Q. Okay. Roughly what percent of your income this
7 year will be derived from your work in this
8 case?

9 A. Just give me one minute. I would say one
10 percent.

11 Q. When you directed PTLI to conduct hardness
12 measurements on the golf balls you provided to
13 them, why did you specify the Shore D scale
14 instead of the Shore C scale?

15 A. Well, first of all, the Shore C scale is very
16 rarely used. In fact, I have no idea why they
17 even bother to report it in these patents.

18 There's an overlap in these scales.
19 If you look at product literature like the
20 Dupont one and others, you'll see invariably
21 plastics hardness measurements are reported in
22 the Shore D scale.

23 Q. So why did you ask PTLI to use Shore D
24 measurements instead of Shore C measurements?

25 A. Well, first of all, they were set up to do

1 that; and, secondly, that's what the attorneys
2 requested me to do, which I considered to be
3 perfectly reasonable.

4 Q. If you wanted to know what the Shore C
5 measurement for any of these hardness results
6 would be, could that be accurately derived from
7 the Shore D measurements?

8 A. Actually, I don't think -- there is, of course,
9 an overlap in the scales, the Shore A and the
10 Shore C and the Shore D. And there's even a
11 little diagram in the ASTM description of how
12 the tests are conducted which show that. But
13 it would be a dangerous thing, I think, to take
14 a table like that and estimate the Shore C
15 based on what the Shore D is. You could do it,
16 and it probably wouldn't be terribly
17 inaccurate, but I would hesitate to do it.

18 Q. Do you have any notion of how accurate or
19 inaccurate a Shore D to Shore C conversion
20 might be, or Shore C to Shore D?

21 A. Not really, no.

22 Q. There's no mathematical formula that
23 describes --

24 A. No.

25 Q. -- that conversion, right?

1 A. I think that's the problem I'm struggling with.
2 These are empirical measurements in the sense
3 that there's no theory that connects them.

4 Q. How did you prepare for your deposition today?

5 A. I met yesterday with Mr. Brannon. Prior to
6 that, I reread carefully the documents which
7 are basically the patents. Those are the
8 things that I read, and of course my
9 declaration itself to go over all those points.
10 But the detailed discussions were held with Mr.
11 Brannon yesterday.

12 MR. SHUMAN: Okay. Dr. MacKnight,
13 thank you very much for your time today. Mr.
14 Brannon, I have no further questions.

15 MR. BRANNON: Okay. I'd like to
16 follow up on a couple of things real quick.

17 CROSS EXAMINATION

18 BY MR. BRANNON:

19 Q. I believe you testified that you couldn't
20 recall what had become of the golf ball
21 samples, but I just wanted to point you to
22 paragraph 34 of your report.

23 A. I actually thought of that after I made the
24 answer, and I was going to amend it, but it is
25 in there. Yeah.

1 COMMONWEALTH OF MASSACHUSETTS

2 COUNTY OF SUFFOLK

3 I, Loretta Hennessey, Registered
4 Diplomat Reporter and Notary Public in and for
5 the Commonwealth of Massachusetts, do hereby
6 certify that WILLIAM J. MacKNIGHT, the witness
7 whose testimony is hereinbefore set forth, came
8 before me on the 2nd day of August, 2007 and
9 was by me duly sworn, and that his examination
10 reduced to typewriting under my direction; and
11 that the transcript is a true record of the
12 testimony given by the witness to the best of
13 my knowledge, skill and ability.

14 I further certify that I am neither
15 attorney for nor related to or employed by any
16 of the parties to the action in which this
17 deposition is taken; and further that I am not
18 a relative or employee of any attorney or
19 counsel employed by the parties hereto or
20 financially interested in the action.

21 IN WITNESS WHEREOF, I have hereunto
22 set my hand this 2nd day of August, 2007.

23
24 Loretta Hennessey, RDR, CRR
25

3

REDACTED
DOCUMENT

4

HIGHLY CONFIDENTIAL - PURSUANT TO PROTECTIVE ORDER

Page 1

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CALLAWAY GOLF COMPANY,
Plaintiff,

v. Civil Action No. 06-91 (SLR)

ACUSHNET COMPANY,
Defendant.

HIGHLY CONFIDENTIAL - PURSUANT TO PROTECTIVE ORDER
VIDEOTAPED DEPOSITION OF CHRISTOPHER CAVALLARO
Wednesday, April 18, 2007
Boston, Massachusetts

Reported by:
Lisa A. Moreira
RDR/CRR
JOB No. 63984

1 MR. ROSENTHAL: Objection, lacks
2 foundation. I don't think the witness testified
3 that he wrote this.

4 Q. Well, let me back up. Did you write this
5 portion of the patent, or do you recall?

6 A. I don't recall writing this portion of the
7 patent.

8 Q. Okay.

9 A. In my opinion, it's a valid statement
10 because there are only certain materials in the
11 world that will work as a golf ball material.

12 Q. And what do you understand it to mean when
13 it talks about finding the right combination of
14 materials and construction to produce a golf ball
15 for a predetermined set of performances being a
16 challenging task?

17 MR. ROSENTHAL: Objection, lacks
18 foundation.

19 A. Designing a golf ball is a balancing act
20 because you have construction variations such as
21 purely dimensional. You have material
22 considerations. You also have manufacturability.
23 So it's truly a balancing act.

24 And as I mentioned a few minutes ago,
25 there are only a certain number of materials in the

HIGHLY CONFIDENTIAL - PURSUANT TO PROTECTIVE ORDER

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1 world that will work on a golf ball. Very analogous
2 to a -- what's the word I'm looking for? -- high --
3 I'm trying to make an analogy for you -- a ballistic
4 type of impact, which means very high strain rate.

5 Q. Right. In your experience as a golf ball
6 designer, is golf ball design a predictable
7 discipline?

8 A. In my opinion, no.

9 Q. What do you mean by that?

10 A. Because just changing one particular
11 material -- one material may perform differently
12 than another material, totally out of the realm of
13 the design that you're looking to achieve.

14 Q. What about changing thicknesses or
15 orientation of materials? Does that also lead to
16 unpredictable results?

17 MR. ROSENTHAL: Objection, vague as to
18 "orientation."

19 A. If you're purely talking about dimensional
20 change, in my opinion, dimensional change alone,
21 without changing anything else, you could make some
22 predictions, everything else held constant. Okay?

23 Q. In typical golf ball design is everything
24 else held constant, or does that always change when
25 you change dimensions?

1 A. My experience has been everything tends to
2 change.

3 Q. I'm sorry?

4 A. Everything tends to change.

5 Q. Tends to change.

6 If you could turn to Column 9 in this
7 patent.

8 A. Yes, sir.

9 Q. And then if you could please direct your
10 attention to the second paragraph, the one that
11 begins "The cover..."

12 A. Yes, sir.

13 Q. This paragraph describes certain properties
14 that are desirable for a cover, including
15 moldability, high abrasion resistance, high tear
16 strength, high resilience and good mold release. Do
17 you agree that those properties are desirable in a
18 cover?

19 MR. ROSENTHAL: Objection. You didn't
20 read the whole sentence.

21 You can answer the question.

22 THE WITNESS: Okay.

23 A. As it states, among some other things, but
24 in general I am in agreement with that sentence as
25 it's written.

HIGHLY CONFIDENTIAL - PURSUANT TO PROTECTIVE ORDER

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1 Commonwealth of Massachusetts

2 Suffolk, ss.

3
4 I, Lisa A. Moreira, Registered Diplomate
5 Reporter, Certified Real-Time Reporter and Notary
6 Public in and for the Commonwealth of Massachusetts,
7 do hereby certify that CHRISTOPHER CAVALLARO, the
8 witness whose deposition is hereinbefore set forth,
9 was duly sworn by me and that such deposition is a
10 true record of the testimony given by the witness.

11 I further certify that I am neither related to or
12 employed by any of the parties in or counsel to this
13 action, nor am I financially interested in the
14 outcome of this action.

15 In witness whereof, I have hereunto set my hand
16 and seal this 18th day of April, 2007.

17
18 _____
19
20 Lisa A. Moreira, RDR, CRR

21 Notary Public

22 CSR No. 146299

23 My commission expires

24 December 25, 2009

5

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Page 1

1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE DISTRICT OF DELAWARE

3
4 CALLAWAY GOLF COMPANY,
5 Plaintiff,

6 vs. Case No.: C.A. No. 06-91 (SLR)

7 ACUSHNET COMPANY,
8 Defendant.

9
10
11
12
13
14 CONFIDENTIAL

15 VIDEOTAPED DEPOSITION OF DEAN SNELL

16 San Diego, California

17 Thursday, April 5, 2007

18
19
20
21 REPORTED BY:

DEBBY M. GLADISH

22 CSR NO. 9803

23 Job No. 63165

CONFIDENTIAL

Page 35

1 A. Um, thinner, thinner covers.

2 Q. That is, just the outer cover or the
3 outer and inner cover or both?

4 A. It's -- it's more of the outer cover for
5 the -- for the improvement of the things I just
6 spoke about as the outer cover.

7 Q. Besides having a thinner outer cover,
8 what other improvements did you think could be made
9 to the Strata ball?

10 A. Well, the durability of it was -- was an
11 issue, the sheering was an issue. So the cover that
12 was more durable than at the time soft ionomers or
13 soft Surllys that were used.

14 Q. When you made your evaluation of the
15 TopFlight Strata, did you think it had any
16 advantages over the current Titleist Professional?

17 A. Yes.

18 Q. In what ways?

19 A. It was um -- it was a change in
20 performance from -- from a spin rate specifically
21 more on the driver and short irons being lower.
22 Lower spin in golf balls is longer. So in order to
23 make the balls longer, the goal was to try to reduce
24 the spin with the driver and that did from
25 Professional.

CONFIDENTIAL

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1 Q. How did your evaluation of the Strata
2 golf ball lead to the commencement of the Veneer
3 project?

4 A. Well, I had done -- um, I had done a lot
5 of work with cast urethane on the Professional
6 for -- for quite a few years and materials --
7 casting the material is -- was easy to do and it's
8 easy to create thinner layers and it's also a very
9 durable material, so coming up with something to
10 make the cover thinner and then using that kind of
11 technology was the way we went about it.

12 Q. When the Veneer project began, was it one
13 of your objectives to replace the ionomeric outer
14 cover with the urethane outer cover in a Strata-type
15 ball?

16 MR. ROSENTHAL: You're asking whether
17 that was one of his personal objectives?

18 MR. SHUMAN: Yes.

19 THE WITNESS: Um, no, no, I don't think
20 that was an objective.

21 BY MR. SHUMAN:

22 Q. When the Veneer project began, was one of
23 the objectives of the project to use a urethane
24 cover specifically or were other candidates under
25 consideration?

CONFIDENTIAL

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1 A. There were other covers and ways under
2 consideration as well.

3 Q. When the Veneer project began, it wasn't
4 clear from the outset that urethane was going to
5 achieve the performance goals you wanted?

6 A. When something begins, it's never clear.

7 Q. Do you recall any one event or document
8 or meeting that you would identify as the beginning
9 of the Veneer project?

10 A. Um, I do not recall it now, no.

11 Q. When the Veneer project began, who was on
12 it?

13 A. It -- it was myself, you know. I
14 started -- um, I started the work with it, and I had
15 technicians that worked -- that worked for me at the
16 time, and Ed Hebert was a -- was a guy in -- was an
17 R&D person who was getting into product development,
18 so he kind of -- he kind of joined at the same time.

19 MR. SHUMAN: Let's mark this as Snell No.
20 4.

21 MR. ROSENTHAL: Thank you.

22 You can show this to the witness.

23 (Plaintiff's Exhibit 4 was marked for
24 identification by the court reporter.)

25 BY MR. SHUMAN:

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1 Q. Mr. Snell, Exhibit 4 is another document
2 that we got from Acushnet, looks like some kind of
3 PowerPoint slide. The heading is,
4 "Episode-Eclipse-Veneer Product Teams." And under
5 "Veneer," it has your name and Mr. Hebert's.

6 Do you see that?

7 A. I do.

8 Q. It also says, "Support from Steve
9 Gosetti, Chris Cavallaro."

10 What was the division of labor among you,
11 Mr. Hebert, Mr. Gosetti and Mr. Cavallaro on the
12 Veneer project?

13 MR. ROSENTHAL: Objection. What time
14 frame?

15 BY MR. SHUMAN:

16 Q. At the time this slide was created, which
17 from this notation looks like June -- or July of
18 '96.

19 A. I don't -- I don't know -- at that time,
20 I don't know what the division of labor would be. I
21 couldn't tell you even when it started, but this
22 point ten, 11 years ago, my memory is --

23 Q. Understandably.

24 A. First thing that goes.

25 MR. GERBER: Maybe second.

CONFIDENTIAL

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1 STATE OF CALIFORNIA

2 COUNTY OF SAN DIEGO

3
4 I, Debby M. Gladish, Certified Shorthand Reporter, in
and for the State of California, Certificate No. 9803, and
5 Registered Professional Reporter, do hereby certify:

6 That the witness in the foregoing deposition was by
me first duly sworn to testify to the truth, the whole truth,
7 and nothing but the truth in the foregoing cause; that the
deposition was then taken before me; that said deposition was
8 reported by me in shorthand and transcribed, through
computer-aided transcription, under my direction; and that the
9 above and foregoing pages are a true record of the testimony
elicited and proceedings had at said deposition.

10
11 I do further certify that I am a disinterested person
and am in no way interested in the outcome of this action or
connected with or related to any of the parties in this action
12 or to their respective counsel.

13 In witness whereof, I have hereunto set my hand this
_____ day of _____ 2007.

14
15
16 _____
Debby M. Gladish, CSR No. 9803, RPR

6

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CALLAWAY GOLF COMPANY,

Plaintiff,

v.

C.A. No. 06-91 (SLR)

ACUSHNET COMPANY,

Defendant.

Tuesday, July 31, 2007

VIDEOTAPED DEPOSITION of Nonparty Expert
Witness DR. ROBERT J. STATZ, Volume 1, taken by
Plaintiff, pursuant to agreement, held at the
offices of Fish & Richardson, P.C., 919 North
Market Street, Wilmington, Delaware, before Amy
E. Sikora, CRR, CSR, RPR, CLR, Certified Realtime
Reporter, Certified Shorthand Reporter, Registered
Professional Reporter, Certified LiveNote Reporter,
and Notary Public within and for the State of New York.
JOB No. 69923

1 Q. Yes.

2 A. -- it goes 10, 20, 30, 40, 50,
3 60, 60, 70, 80, 90, 100. I'm not sure that's
4 a mistake, but you'd almost have to assume
5 that's a mistake.

6 Q. Why?

7 A. Well, do you see any other line
8 in there where they repeat the number?

9 Q. Well, no. But is that -- is
10 that the basis for your saying it's a
11 mistake?

12 A. Yes. I think it's a mistake.
13 It doesn't make sense.

14 Q. Okay. You've seen this chart
15 before, durometer scale comparison chart?

16 A. Yes, I have.

17 Q. Okay.

18 A. And I've seen the other one,
19 too. I'd forgotten.

20 Q. Yes. That's my -- my question
21 is, what is the other one that you have in
22 mind? Is it the Rex gauge chart?

23 A. It could be. I don't remember
24 the name. There's another one that looks
25 just like this, but the numbers are slightly

1 different. Do you have that one?

2 Q. I don't.

3 Do you agree that the so-called
4 correlation, the various items you cite in
5 your report as showing a correlation between
6 Shore C and Shore D -- they give different
7 numbers for the correlation; right?

8 A. Right.

9 Q. So you can't really say that a
10 specific Shore C value translates into a
11 specific Shore D value, can you?

12 A. Oh, no. Not -- it's a rule of
13 thumb. Okay. It's not an exact
14 extrapolation. It's not an exact conversion.
15 For one thing, you're comparing different
16 resins, different materials across from one
17 hardness to another.

18 If you compared all the same
19 materials, like all ionomers, then there
20 would probably be a fairly decent conversion.
21 But if you compare your things with HYTREL or
22 something like that, then it's -- it's of
23 viscoelastic property.

24 And it has to do -- sorry. It
25 has to do with how the stuff bends and how

1 the stuff flows. And everything flows a
2 little differently and everything bends a
3 little differently.

4 So ionomer to ionomer is
5 probably pretty good. Ionomer to a different
6 family of polymers, not too good.

7 Q. Has anyone, to your knowledge,
8 ever tried to generate what they considered
9 to be an actual translation of one Shore
10 measurement to another Shore measurement for
11 the same material?

12 MR. ROSENTHAL: Objection.

13 Vague.

14 Go ahead.

15 A. The paper that translates the
16 Shore C Japanese one to Shore AD -- and Shore
17 D, that's pretty good. Those are pretty
18 decent plots. There is a regression analysis
19 there that doesn't look bad.

20 Q. Let me show you -- you said in
21 your -- in your report here, in
22 paragraph 92D, you refer to a DuPont chart
23 attached as Exhibit O to Acushnet's
24 comments --

25 A. Wait. Where are we?

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CALLAWAY GOLF COMPANY,

Plaintiff,

v.

C.A. No. 06-91 (SLR)

ACUSHNET COMPANY,

Defendant.

Wednesday, August 1, 2007

CONTINUED VIDEOTAPED DEPOSITION of Nonparty
Expert Witness DR. ROBERT J. STATZ, Volume 2, taken
by Plaintiff, pursuant to agreement, held at the
offices of Fish & Richardson P.C., 919 North Market
Street, Wilmington, Delaware, before Amy E. Sikora,
CRR, CSR, RPR, CLR, Certified Realtime Reporter,
Certified Shorthand Reporter, Registered Professional
Reporter, Certified LiveNote Reporter, and Notary
Public within and for the State of New York.

JOB No. 69924

1 Is it fair to say that you have
2 not seen or tested two-piece golf balls with
3 an outer cover layer having either 10/1000
4 thickness or 70 thousandths thickness?

5 A. I would never have tested golf
6 balls. We already said that. Did the
7 Titleist people ever test golf balls like
8 that, not at 10, I'm pretty sure, because it
9 can't have dimples. At 70, I would assume
10 they did, but I don't know that for a fact.

11 Q. Okay. And if I ask the same
12 question about a three-piece solid core ball
13 where the outer cover is at 10 thousandths or
14 70 thousandths, same answer?

15 MR. ROSENTHAL: Objection.

16 Vague.

17 A. You just asked me that question,
18 didn't you?

19 Q. I was asking about two-piece
20 balls in the prior question.

21 A. Oh, no. Again, I wouldn't
22 remember, and DuPont didn't test balls, so my
23 experience with two-piece balls were at
24 DuPont and we didn't test balls.

25 Q. Let's go on to paragraph 236,

1 please, where you have some comments on
2 making an outer cover that's only
3 10 thousandths thick; right?

4 A. Right.

5 Q. Okay. In the last sentence you
6 say, "Moreover, it is not clear whether such
7 a cover would be too thin to realize the
8 advantage of having a soft outer cover layer
9 at all."

10 Why wouldn't it be clear,
11 knowing the material and the thickness,
12 whether you would get the advantage of having
13 a soft outer cover layer at all?

14 A. Without doing the experiments,
15 you have a thin layer on -- on this fairly
16 hard, stiff material that's underneath. The
17 club sees -- a pitching wedge or something
18 like that, sees a cover material that's soft
19 and flexible and you get high spin on the
20 ball.

21 Q. Okay.

22 A. So what is the optimum thickness
23 for that layer? Without doing the
24 experiments, you can't tell.

25 Q. You can't predict in advance?

1 A. No. In my report where we try
2 to develop a system for looking at
3 coefficient of restitution, compression, and
4 spin, actually, on solid spheres, you can
5 draw a slight conclusion there, that's in the
6 paper, which says that lower, softer
7 materials in a solid sphere give you high
8 spin. That data -- the spin data came from
9 Wilson on a ball. The compression numbers we
10 measured on the spheres.

11 So softer, more flexible
12 materials in a sphere give you more spin when
13 you put it on a ball. What is the thickness
14 of the cover that you need to get the spin
15 that you're looking for? Without doing the
16 experiments, I don't know.

17 Q. Okay.

18 A. I'm sure the experiments were
19 done.

20 Q. How about -- that was -- I was
21 asking you about outer cover. In
22 paragraph 238 you then talk about the core.
23 And you say that, "given the ranges for cover
24 thicknesses described in the patents, the
25 core could be from 1.34 to 1.64 inches."

C E R T I F I C A T E

STATE OF NEW YORK)

:ss

COUNTY OF NEW YORK)

I, AMY E. SIKORA, CRR, CSR, RPR, a
Certified Realtime Reporter, Certified
Shorthand Reporter, Registered Professional
Reporter, Certified LiveNote Reporter and
Notary Public within and for the State of New
York, do hereby certify that the foregoing
deposition of ROBERT J. STATZ was taken
before me on the 1st day of August, 2007;

That the said witness was duly sworn
before the commencement of the testimony;
that the said testimony was taken
stenographically by me and then transcribed.

I further certify that I am not related
by blood or marriage to any of the parties to
this action nor interested directly or
indirectly in the matter in controversy; nor
am I in the employ of any of the counsel in
this action.

IN WITNESS WHEREOF, I have hereunto set
my hand this 2nd day of August, 2007.

AMY E. SIKORA, CRR, CSR, RPR, CLR

7

DAVID A. BULPETT
HIGHLY CONFIDENTIAL PURSUAT TO PROTECTIVE ORDER

05/25/07

Page 1

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CALLAWAY GOLF COMPANY,

Plaintiff,

v.

Civil Action No.

06-91 (SLR)

ACUSHNET COMPANY,

Defendant.

VIDEOTAPED DEPOSITION OF DAVID A. BULPETT

Friday, May 25, 2007

11:02 to 2:20 p.m.

Fish & Richardson P.C.

225 Franklin Street

Boston, Massachusetts

Reporter:

Lisa A. Moreira, RDR/CRR

CSR No. 146299

JOB No. 66101

DAVID A. BULPETT
HIGHLY CONFIDENTIAL PURSUAT TO PROTECTIVE ORDER

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1 MR. DUBIANSKY: Object to form.

2 A. Again, it depends what's being asked of the
3 person doing the measurement, I think. Unless I
4 don't understand your question.

5 Q. What is the best way to obtain Shore C
6 hardness data for a golf ball cover?

7 MR. DUBIANSKY: Objection to form.

8 A. The shore tests are described in an ASTM
9 method, and to the extent one can conform to an ASTM
10 method, that might be the best way. "Best" is a
11 very generic term, and I think, again, it depends on
12 who's asking for what kind of information. One
13 would have to then take that request and determine,
14 for that test, what the best course of action is.

15 Q. Suppose I were an Acushnet research
16 employee, and I submitted a golf ball to you and
17 asked you to tell me what the Shore C hardness of
18 its cover was. How would you gather that data for
19 me?

20 A. Well, I think I've already testified how
21 those measurements would be made --

22 Q. That is, you would use --

23 A. -- in detail.

24 Q. I'm sorry. That is, you would use a Shore C
25 durometer?

DAVID A. BULPETT
HIGHLY CONFIDENTIAL PURSUAT TO PROTECTIVE ORDER

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Was

1 A. If the question was Shore C hardness?
2 that the --

3 Q. Yes. If I wanted to know the Shore C
4 hardness of the cover, you would use a Shore C
5 durometer to measure it?

6 A. That's correct.

7 Q. And if I wanted to know the Shore D hardness
8 of that cover, you would use a Shore D durometer to
9 measure it?

10 A. I would.

11 Q. Have you ever tried to convert a Shore D
12 measurement into a Shore C measurement, or vice
13 versa?

14 A. I think "convert" is a strong word that I'm
15 not comfortable using.

16 Q. Why does that make you uncomfortable?

17 A. "Conversion," to me, means having two scales
18 where one can look up a single, well-accepted
19 conversion factor; for instance, English to metric
20 units of measure or what have you. There's no
21 debate about what the conversion factor is. That's
22 a conversion.

23 One cannot go that far when talking
24 about hardness measurements.

25 Q. Because in hardness measurements there is no

1 single conversion factor between C and D?

2 A. That's correct. It's material-dependent.
3 If you're talking about the values generated after
4 testing a sample, that is material-dependent.

5 Q. So there is no single formula for converting
6 Shore C measurements to Shore D measurements?

7 A. No, as far as I know, there are not, or I
8 should say there is not a single formula for
9 converting Shore C to Shore D measurements that I am
10 aware of.

11 Q. Okay.

12 MR. SHUMAN: Let's mark the next exhibit
13 Bulpett No. 7, please.

14 (Exhibit No. 7, Bates AC0046741.UR
15 through AC0046763.UR, marked for
16 identification)

17 Q. Mr. Bulpett, what is Exhibit 7?

18 A. It appears to be the printout of a record in
19 the Competitive Ball Database II.

20 Q. For which ball?

21 A. For Ball Log No. 2002009.

22 Q. And if I'm reading this document correctly,
23 that log number refers to 36 individual balls of the
24 side stamp ProV1* 392?

25 A. This indicates that 36 would have been the

DAVID A. BULPETT
HIGHLY CONFIDENTIAL PURSUANT TO PROTECTIVE ORDER

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1 original population for balls of that nameplate and
2 side stamp.

3 MR. DUBIANSKY: Counsel, I believe the
4 side stamp is arrow ProV1* 392 arrow.

5 MR. SHUMAN: Oh, you're right. Yes. I
6 guess the side stamps, when they have arrows, that's
7 important. So for the record, yes, the side stamp
8 on AC 46761 is arrow ProV1* 392 arrow. I apologize
9 if that created any confusion.

10 Q. Once again, that's your name in the upper
11 right-hand corner there, right?

12 A. That's correct.

13 Q. Which means you were the last person to
14 update this record at the time this was printed?

15 A. That's correct.

16 Q. On Page 46761, under "Ball Type," the entry
17 there is "double cover, double solid core." What
18 does that entry refer to?

19 A. That field is used to, in a shorthand
20 manner, capture the construction of the type of ball
21 that's being logged in.

22 Q. Okay. So in this case, that refers to the
23 construction of the ProV1*?

24 A. That's correct.

25 Q. What does "double solid core" refer to with

DAVID A. BULPETT
HIGHLY CONFIDENTIAL PURSUAT TO PROTECTIVE ORDER

05/25/07

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1 Commonwealth of Massachusetts
2 Suffolk, ss.

3
4 I, Lisa A. Moreira, Registered Diplomate
5 Reporter, Certified Real-Time Reporter and Notary
6 Public in and for the Commonwealth of Massachusetts,
7 do hereby certify that DAVID A. BULPETT, the witness
8 whose deposition is hereinbefore set forth, was duly
9 sworn by me and that such deposition is a true
10 record of the testimony given by the witness.

11 I further certify that I am neither related to or
12 employed by any of the parties in or counsel to this
13 action, nor am I financially interested in the
14 outcome of this action.

15 In witness whereof, I have hereunto set my hand
16 and seal this 25th day of May, 2007.

17
18 -----
19
20 Lisa A. Moreira, RDR, CRR
21 Notary Public
22 CSR No. 146299

23 My commission expires
24 December 25, 2009
25

8

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

BRIDGESTONE SPORTS CO., LTD.,)	
and BRIDGESTONE GOLF, INC.,)	
)	
Plaintiffs,)	
)	
v.)	
)	
ACUSHNET COMPANY,)	C. A. No. 05-132 (JJF)
)	
Defendant.)	
)	

DECLARATION OF WILLIAM E. MORGAN

I, William E. Morgan, hereby state as follows:

- 1) I am currently the Senior Vice President of Research & Development for Golf Balls at Acushnet Company ("Acushnet"). In that position, I am responsible for all golf ball R&D at Acushnet. With the exception of two years in golf club operations (1987-1988) I have worked in R&D at Acushnet since I joined the company in 1986. I have been directly responsible for Acushnet Company's golf ball product development since 1989.
- 2) I have 25 years of experience in the golf industry. Before joining Acushnet, I worked at the Ben Hogan Company from 1982 to 1986. At Hogan I was a member of the golf ball R&D team working on both wound and solid two-piece golf balls.
- 3) I graduated from the University of Dallas with a BS Biochemistry in 1977.
- 4) I am an inventor on over 40 US Patents, all related to golf ball technology. I am named as an inventor on over 20 additional US Patent applications published and pending.

- 5) I have been an invited speaker at numerous venues related to golf: US PGA Sectional Meetings (OH, HI, OK, KY, NY Metropolitan), Swedish PGA, UK customer seminars, UK PGA Expo, Acushnet Customer seminars, and the US Patent and Trademark Office.
- 6) By my education and first hand experience in the industry, I am qualified to testify as an expert in golf balls and golf ball technology, including the innovations in the golf balls over the past 25 years.
- 7) Other than the patents identified above, I have not authored any publications in the past ten years.
- 8) I have never testified before as an expert. I am not being paid by Acushnet to testify as an expert witness. I am employed by Acushnet and draw a salary, but my compensation is in no way dependent on my testimony or the outcome of the case.

ACUSHNET'S HISTORY WITH SOLID CONSTRUCTION GOLF BALLS

- 9) Initially, let me discuss the development and introduction of solid construction golf balls at Acushnet, from my perspective of one who was actually involved in the development of these products. I will also discuss some of the other significant developments in solid golf ball technology based on my personal knowledge and experience in this area. In so doing, I want to correct the very misleading and incomplete discussion in the Blair and Calabria Declarations. I will focus first on the period up until the mid-1990s, before we began development of the Pro V1.

1960s

- 10) Entering the 1960s, the ball of choice for both tour professionals and recreational golfers was the same, the wound core, balata covered ball. James Bartsch did some very early work on the use of cross-linked polybutadiene as a core material for golf balls, and was awarded several patents in this time frame, for example, U.S. Patents Nos. 3,313,545 and 3,438,933. A period of development ensued with the introduction of solid (non-wound) golf balls. Initially introducing unitary

or one piece balls, a number of ball makers began production of at least small quantities of solid golf balls.

- 11) Spalding, one of the ball makers that had produced one piece balls, tried to improve the one piece design by adding a layer of material covering a solid core of what was essentially one piece ball material. This cover was initially a blend of plastics including ABS and urethane but later converted to a new plastic from DuPont, Surlyn. Spalding introduced the Executive ball in 1967, which some have called the first modern, solid-core, two-piece golf ball. *See Great Leaps Forward, The Evolution of the Game*, Golf Magazine (Feb. 2007). Acushnet Company began investigation of solid constructions and urethane cover materials in the 1960s. The Surlyn covered two-piece ball all but eliminated the Bartsch-type one-piece ball.

1970s

- 12) Acushnet's first patent related to solid construction golf balls issues in 1974 [US Pat 3,791,655 "Solid Rubber Golf Ball," by Schweiker and Jepson, filed 12/01/1971]. Others would follow.
- 13) Acushnet's first patent related to urethane cover materials issues in 1976 [US Pat 3,989,568 "Polyurethane Covered Golf Balls," by Isaac, filed 11/21/1974]. The Isaac patent makes specific reference to its applicability for both wound and solid construction golf balls [col3, line55]. Others would follow.
- 14) During the 1970s most ball makers developed products with Surlyn covers and at this time both Surlyn two piece and Surlyn covered wound core balls were introduced. Acushnet elected to first market a Surlyn covered wound core ball named the Titleist DT in 1974.
- 15) In 1974, the Acushnet Golf Center (AGC) is created as the ultimate R&D indoor test lab where we measure ball speed, launch angle, spin rate, club head speed, swing path, angle of attack. Acushnet was awarded numerous technology patents related to the AGC and its applications. Computer data and analysis was used for the first time to provide greater insight into swing, ball and club and helps to accelerate new products to market. Featured in a 1980 Golf Digest article titled "Is This the Ultimate Swing Analyzer?" the AGC was the forerunner of today's

launch monitors. Using launch condition information and models of golf ball flight, scientists have been able to understand how golf equipment can be improved and selected to achieve improved player performance. For example, beyond increasing ball speed, driver distance is increased with higher launch angles and lower ball spin.

1980s

- 16) In the fall of 1980, Acushnet Company entered the solid golf ball category with the Pinnacle two-piece ball. This was a solid core golf ball with a Surlyn cover. The Pinnacle was a resounding success, and we introduced the Pinnacle 384 and Pinnacle Gold during the 1980s. Some within our company began to wonder whether the tremendous gains we made in the two-piece ball segment would transform our flagship brand from "Titleist" to "Pinnacle."
- 17) During the mid 1980s, Acushnet revived project activity related to urethane covered golf balls. By the late 1980s, Acushnet opened Ball Plant II, specifically designed for the production of solid golf balls.
- 18) John Calabria, whose Expert Report has been presented by Bridgestone in this matter, was hired by Acushnet in 1988 and worked almost exclusively in the management of project activity related to urethane golf balls. In the late 1980s, Mr. Calabria worked at Acushnet to develop both wound and solid construction urethane covered golf balls. His projects ranged from retractable pin injection molding urethane covers on solid cores to casting urethane covers on both wound and solid cores. Of Mr. Calabria's 10 issued US patents (see Calabria report), 7 relate to urethane covered golf balls and are assigned to Acushnet Company. Each of these 7 makes specific reference towards applicability for making urethane covered, solid core golf balls.
- 19) Spalding introduced the Tour Edition a large core two-piece ball with a cover comprising a mixture of ionomer and urethane. Within two years the cover composition is changed to all ionomer.
- 20) Multi-layer balls began to appear during this time frame. Kasco displays dual core multilayer solid golf balls at the PGA Show in the mid-1980s. Multilayer balls begin to appear in patents (including patents from Kamatari/Kasco, Sumitomo,

and Wilson). Due to their appearance at the PGA show and the early patents, multilayer solid designs were being considered by Acushnet R&D in the 1980s (Jerome 1986, Cadorniga 1987, Llorc 1988.)

1990-1995

- 21) In January 1991 Acushnet introduced the first Titleist branded solid construction golf ball, the Titleist HVC, featuring a large 1.550" diameter core. This core was a larger than all other two-piece balls except the Spalding Tour Edition. In early 1993 Acushnet extended its line of Titleist branded two-piece balls with the large 1.580" diameter core and soft covered Titleist HP2. The HP2 core was larger than any other two-piece ball core. Large cores had become an integral component of Acushnet's effort in solid construction technology. The 1993 and 1994 Titleist Golf Ball Booklets "Total Performance Runs in the Family" describes four models of Titleist golf balls. With HP2 and HVC in the line-up, half of the Titleist models offered in these years are of a solid construction. Additionally Acushnet continued to successfully market a family of Pinnacle Golf balls, all of which were solid construction.
- 22) In early 1993 Acushnet began the production of urethane covered wound balls with the limited introduction of the Tour Prestige ball. While we continued to build capacity, the early production was sold only in Japan and the process improved and expanded. In Feb 1993 at a presentation at a press conference in Japan introducing the Tour Prestige, John Calabria offered "We feel confident that the superior performance of the Tour Prestige can be applied to wound and two-piece constructions."
- 23) Later in the same year a test market of the same ball (but named Professional) began in the US and it rapidly became a runaway market leader. To this day, despite numerous additions to urethane cover molding capacity and several changes to product design (including a conversion to Pro V1) we have never arrived at a period of excess capacity. We will add additional capacity in 2007.
- 24) The introduction of the cast urethane cover by Titleist is a product design change equal in magnitude to the introduction of the modern solid core or the Surlyn cover in the 1960s. The cast urethane cover offered the feel and short game spin

characteristics of balata covered balls with greater driver distance and durability approaching that of Surlyn. For years, Acushnet was the only manufacturer of this type of cover material. Indeed, John Calabria, now an expert witness for Bridgestone, was recruited by Maxfli to build a urethane capability for Maxfli. This led to litigation between our companies relating to our claims that Maxfli and Calabria misappropriated our trade secrets, which litigation was later settled in our favor.

25) In 1993 Wilson began selling the first solid construction double cover multilayer golf ball in the US market. The Wilson Ultra Tour Balata golf ball had a solid core, a Surlyn inner cover and a rubber outer cover comprised of polybutadiene and trans-polyisoprene (balata). Conceptually this was a ball which would have two-piece like low spin and distance off the tee combined with a higher wound ball-like spin into the green.

26) An Acushnet Competitive Ball Presentation at the Sales Meeting January 1994 demonstrates we were already investigating multilayer balls at that time. At that same meeting "Titleist Franchise Plans" does not read like a "wound ball company" document. A reference to Competitive Balls identifies five distinct types of golf balls:

- a. Wound Performance
- b. Wound Durable
- c. Solid Performance
- d. Solid Distance
- e. Layered Construction

At the time of that presentation Acushnet already produced balls of the first four types and held impressive market share in each. The layered construction category was already being experimentally considered. Just as investigations in solid cores and urethane cover materials begun in the late 1960s would lead to products such as Pinnacle, Titleist HVC & HP2, and Titleist Professional, the layered construction investigations begun in the early 1990s [and earlier!] would culminate in products like the Titleist Pro V1.

- 27) Later in 1994, Bridgestone introduced the Altus Newing in Japan. Like Ultra Tour Balata it was a double cover multilayer solid ball, but had a fairly small core at about 1.410" diameter, a thick Hytrel inner cover and a thick and hard ionomer outer cover. Unlike the Ultra Tour Balata, which had a soft outer cover presumably intended to mimic the soft feel and short game spin of a wound balata golf ball, the Altus Newing's thick hard cover produced low spin on all shots. The Altus Newing was a low-spin, long distance ball and was not positioned by Bridgestone to compete with tour-played golf balls. The Altus Newing achieved some success in Japan but has never been sold in the United States.
- 28) Note in particular how different the Altus Newing was from the Pro V1. First, the Altus Newing had a small core, compared with the large core on the Pro V1. Second, the Altus Newing had a thick, hard ionomer outer cover over a relatively softer yet still thick, inner cover. The Pro V1 is exactly the opposite, it has a very thin and soft outer cover over a relatively hard inner cover. The cover layer on the Altus Newing is much thicker than the Pro V1 cover layers. The Pro V1 uses a cast urethane outer cover. The Altus Newing did not use urethane technology. Hence, the Pro V1 is entirely different from the Altus Newing.
- 29) Not only is the construction of the Pro V1 different from the Altus Newing, the golfers to whom the ball was targeted were different. Pro V1 was planned for use at the highest levels of the game and has been the most played ball in competitive golf for six years. Altus Newing was not aimed at Tour players and had virtually no history on Tour. It is completely wrong for Mr. Blair to imply, as he does, that the Altus Newing ball was in some way the design objective for the Pro V1.
- 30) Titleist Golf Ball booklets were also published in 1995 and 1996, though some models had been added (Professional, DT 2-Piece) and others changed; one thing remained constant: half of Titleist golf ball models were of a solid construction.
- 31) More than two and a half years passed before Bridgestone, in late-1996, introduced a solid core double cover ball in the U.S. That ball, the Precept Dynawing, differed from Altus Newing having a slightly bigger, though still small core of about 1.445" in diameter, an ionomer inner cover and ionomer outer cover. The inner and outer covers on the Dynawing were softer than the Newing

and the Dynawing core was made a little larger. This resulted in a softer feel and higher spin. While this still was not sufficiently changed to render Dynawing a “tour” ball, it did make it more playable into the green than the seriously low spinning Newing. Again, the Precept Dynawing had nothing in common with the Pro V1. Dynawing had only limited success in the US.

32) In 1996, Top Flite introduced the Strata, the first solid construction ball with a multi-layer cover used on Tour. The Top Flite Strata ball appeared in shops in April 1996, at least six months before Bridgestone’s Precept Dynawing. This ball was a significant development among tour players, as Golf Magazine noted in the *Great Leaps Forward* article cited above. I consider Acushnet and Top Flite as among the key innovators in solid golf ball construction. I do not think that Bridgestone is among that group, nor have I heard anyone (other than Bridgestone in this case) make that claim. Bridgestone has made some quality products over the years, but to suggest that it is a leader in solid construction technology is another serious error of overstatement that Mr. Blair makes.

33) In this regard, I want to mention one other event that occurred during this time frame. In 1995 Acushnet test marketed a two-piece cast urethane covered golf ball known as the Pro 2-piece. Though it was warmly received by players, Acushnet decided NOT to introduce the product. We did so because we learned that moisture migrated through the urethane over time degrading the resilience of the solid core (this was not a factor with wound cores).

34) This is an example of how we think and operate at Acushnet. We do not introduce balls until we are rigorously sure of the ball’s quality, performance, and long term durability. We take the time to learn how to make our products and make them right, before we introduce them. While Mr. Blair seems to take some notice of our efforts to get the Pro V1 technology right in the late-1990s, the inference he draws, that we were struggling with the technology, is completely wrong and misguided. The reality is that we would not introduce new technology or new balls until we mastered the technology, how to make the ball, and how to assure that it meets our quality standards. These are core parts of our culture, and are a primary reason we have been so successful. For Mr. Blair to infer from this

attention to detail that we were “struggling” is a serious error. Perhaps if he ever worked in the golf ball business and had more experience in knowing what it takes to bring a high-quality golf ball to market he would not make this error.

DEVELOPMENT OF THE PRO V1

- 35) The Titleist Pro V1 ball is a solid construction ball, having a large 1.550” solid core, a thin and stiff casing layer, for low driver spin and high speed, and a very thin, or “veneer” outer cover of cast polyurethane to produce a softer feel and higher spin in the short game. The “V” in Pro V1 stands for “Veneer,” a reference to the thin “veneer” cover layer on the ball. When we conceived of the idea for Pro V1, I used the term veneer to describe the thin-ness of the urethane outer cover layer we were hoping to achieve.
- 36) Acushnet developed the Pro V1. It was invented and developed by researchers in my group. We developed the ball by combining three Acushnet technologies into a superior golf ball. We did not copy this technology from anyone. We did not copy the technology for this ball, or any of our products, from Bridgestone, Bridgestone patents, or Bridgestone products. We invented the Pro V1, and all our products, by our own hard work, creativity, and diligence.

Project X

- 37) In particular, I want to rebut the suggestion Mr. Blair makes that the Pro V1 was the outgrowth of our research project called “Project X” and rebut the suggestion that we were trying to develop a ball that was like or similar to the Bridgestone Altus Newing. Mr. Blair is entirely wrong about both of these matters. The Pro V1 was not part of our “Project X,” despite the loose nomenclature we sometimes used, and the Pro V1 was NOT in any way developed to copy or mimic the Altus Newing ball. The Pro V1 is a completely different construction from the Altus Newing. The Pro V1 was developed using our own technology.
- 38) Importantly, the Altus Newing and Pro V1 designs were intended to fulfill the requirements of two different users. Pro V1 is a ball which can be played successfully by the game’s best players and aspiring golfers who hope to emulate the play of accomplished golfers. One element of the success of Pro V1 is that it

can be played by tour players and higher handicap players with neither group sacrificing an element of ball performance. The Altus Newing, on the other hand, is a low spin ball from tee to green and serves only those golfers seeking low spin for straighter flight. While Newing can help less skilled players hit straighter and longer shots, it does not provide a better player with the control required for scoring shots into the green.

- 39) "Project X" was a term we used to describe our research into certain multi-layer technologies. We were considering, for example, putting a multi-layer cover (which could be of various constructions) on our Titleist balls, either a solid ball or a Titleist wound construction ball. Project X was about this "dual cover" technology, as is clear from the title and substance of the documents that Mr. Blair points to in his report.
- 40) Sometime in 1995 Acushnet began vigorously investigating the opportunities to produce multilayer designs, considering a variety of construction types (Cavallaro email "Multi-layer Type Construction Update" 6/8/1995). Later in the same year the term Project X was adopted to refer to this project activity (Morgan copy of Sine "Project Multi-Layer Identity Directive" 10/30/1995 has "Project X" handwritten on the first page). After this point in time the use of the term Project X was commonplace and many people began to describe various constructions types as X1, X2, X0, Xw, etc. Despite an occasional effort to standardize the nomenclature, there was seldom a uniform description of the various versions of X1, X2, etc. (for example: Morgan "Bill's Update for the Product Strategy Team" 4/1/1996).
- 41) Project X was Acushnet's first effort to plant a stake in the emerging multilayer construction segment. Acushnet's primary focus was solid multilayer, though some discussion related to wound types did take place. Similarly other ball makers focused primarily on solid multilayer balls, although as late as 1997 Bridgestone was still selling a wound-core double cover ball (Precept Tour Double Cover). We did look at the Altus Newing ball as part of the Project X effort, but only to understand what the competitors (Bridgestone and others) were doing. In a similar fashion we looked at Wilson's Ultra Tour Balata and the many

versions of Kasco's dual core multilayer golf balls. As noted above, the Altus Newing had a hard outer cover and a softer inner cover. This was a design we were also considering at the time in Project X. However, we did not copy or try to duplicate the Altus Newing. We planned to make a better golf ball, and we did, using our own technology.

- 42) Late in 1996, the first product from Acushnet's Project X activity was introduced. The Titleist Episode ball, a solid core double cover ball, was introduced in Japan. The Japan introduction was selected because it was a small market in which we could conduct a limited introduction (as we had done with the Prestige three years earlier). The introduction of Episode was followed in 1997 with a similar double cover multilayer solid ball in the US named HP2 Distance. The following year three models of Cobra branded double cover multilayer balls were added. This was the actual result of the Project X effort. Project X did not mature into the Pro V1, contrary to Mr. Blair's misunderstanding.
- 43) At one point in the 1990s, Acushnet had industry leading market share in double cover solid multilayer (HP2 Distance, circa 1997) and dual core solid multilayer (HP Eclipse, circa 1999). When Acushnet introduced the dual core HP Eclipse, it was the ONLY manufacturer to sell both dual core and double cover multilayer balls. Acushnet had established itself as an industry leader in multilayer solid designs BEFORE the introduction of the Pro V1.

Acushnet Dual Core Technology.

- 44) In addition to Project X, during the mid 1990s Acushnet embarked on a second project path in multilayer design. It was believed based on our success with large core two piece designs (1.550" HVC, 1.580" HP2) that excellent multilayer designs would be possible from dual cores rather than double covers because thinner covers (as in not double) necessarily meant larger engines (cores). A two prong approach was adopted: (1) Discussions were started with Kasco to purchase cores and/or license technology; and (2) we began to develop internal dual core process capability. The Kasco related project was termed "NuCorp" and began in 1996 (Allen email "Nucorp Meeting" 10/2/1996). By 1999 it was apparent that Kasco would be unable to consistently meet Acushnet Quality

standards and we went to market with the dual core HP Eclipse multilayer solid golf ball using dual cores produced at Acushnet Ball Plant 3.

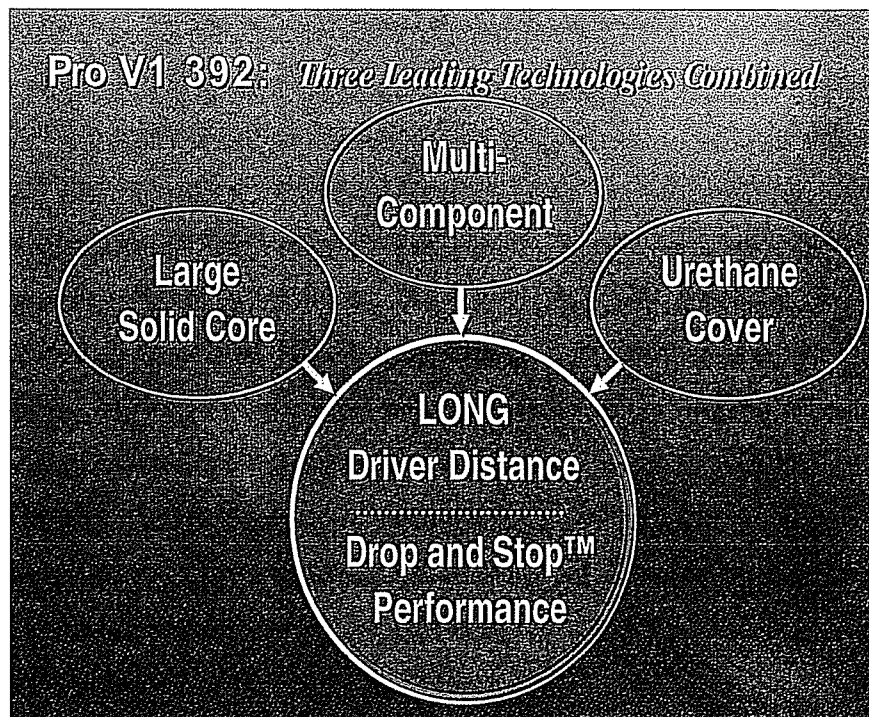
Development of the Pro V1.

- 45) The Pro V1 was actually developed as a third alternative in multilayer design. Sometime in late 1995 or early 1996 the veneer concept was invented as an alternative multilayer design to the Project X double cover activity or the Nucorp dual core activity. The Veneer project is what would lead to the Pro V1.
- 46) The term “veneer” was coined coincidentally with the concept to use a very thin, soft cast polyurethane cover over a more rigid inner layer of Surlyn.¹ Both wound and solid veneer designs were considered. Veneer experimentation continued through 1996 and by early 1997 an initial patent application was filed. Veneer experimentation and development of the process necessary to make the product continued through the 1990s with versions being listed on the USGA Conforming Ball List in the late 1990s.
- 47) One version of the veneer concept tested particularly well both in machine and player tests. It incorporated three Acushnet industry leading technologies:
- a. a large solid core (Acushnet lead the industry in large core designs: 1.550” HVC in 1991, 1.580” HP2 in 1993)
 - b. a multilayer solid construction (Acushnet leads industry by having already achieved market success with both double cover and dual core models)
 - c. a thin cast urethane outer cover (Acushnet leads industry in urethane casting (first in 1993) and in thin cover molding (nominally 0.030”))
- By the end of the 1990s, this ball was simply known in Acushnet labs and in Strategy discussions as “Veneer.”
- 48) When we decided to launch the Veneer as a top of the line performance ball, it was renamed “Pro V1” – “V” for veneer. My team and I spend many months

¹ As mentioned above, unfortunately our nomenclature was not uniform at this time, and this may have confused Mr. Blair. For example an early reference to tour player tests of “veneer” product includes a use of the term X². (Hebert email “Layered Ball testing with Brad Faxon” 6/20/1996). An early use of the term veneer can be found about the same time. (Sine “Layered cover Product Strategy Considerations” 5/16/1996 includes Project X^w also called Elastomer Veneer).

perfecting the manufacturing techniques for the ball, prior to its launch in the Fall of 2000. Our hard work paid off, as the Pro V1 became an immediate success.

49) The following chart demonstrates how the Pro V1 resulted from the combining of three technologies where Acushnet was already the proven industry leader.



50) The Pro V1 was invented in our laboratories in Fairhaven, Mass. We invented the ball ourselves, and developed it ourselves from our own industry leading technologies. We are very proud of what we did. We did not copy any other company's technology into the Pro V1, from Bridgestone or anyone else.

51) We later added the Pro V1x to the product line, which incorporated our technology development in dual core balls. Once again, the Pro V1x is entirely the result of Acushnet engineering and we developed this ball ourselves.

52) I'd like to point out that as of this writing, Bridgestone has yet to introduce a solid golf ball with an outer cover layer as thin as used on the original Pro V1 in 2000. Their thinnest cover appeared in 2005 and is still more than 30% thicker than original Pro V1. Furthermore Bridgestone has yet to employ large rubber

cores in their multilayer solid designs. Two of the three construction elements found in the original Pro V1 have yet to be incorporated into a Bridgestone golf ball: large solid cores and thin urethane covers. Pro V1 is not a copy of any Bridgestone golf ball.

THE ROLE OF PATENTS AT ACUSHNET

- 53) The golf ball art is a crowded field in terms of patents. A survey that we did recently located over 1,968 patents issued in the golf ball art between 1980 and today.
- 54) A large percentage of these patents have been issued to Acushnet. For the same period 1980-2006, approximately 576 patents were issued to Acushnet on golf ball technology, or approximately 30 % all US golf ball patents were issued to Acushnet during this period. These patents cover all aspects of golf ball technology, including cores, covers, dimples, manufacturing techniques, testing techniques, to name a few.
- 55) One way to appreciate the amount of creative work we did on the Pro V1 family of balls is to look at the number of patents we have received on the technology used in those balls. Attached hereto (Exhibit A) is a table listing the Acushnet U.S. patents used in Pro V1 and Pro V1x.
- 56) As you can see, there are about 68 Acushnet patents used in making the Pro V1 and Pro V1x. Most of these patents, about 55 of them, relate to inventions we made since we began working on the veneer program in the mid-1990s. We filed our first patent application describing the veneer technology used in the Pro V1 in 1997 (This patent application has issued as U.S. Patent No. 5,885,172. However, the issued claims are related to the use of a stiffer inner cover, like a high acid Surlyn, which we do not use in the Pro V1). Since then, many more patents and patent applications have developed from our work on the veneer project and later on the Pro V1 family of balls.
- 57) Looking at these patents can also further rebut the suggestion in the Blair and Calabria declarations that Acushnet was just a “wound ball” company. For the period 1980-1999 (before the Pro V1 was introduced) Acushnet was awarded 254

patents on golf balls. In reviewing these patents, we find that over 70, or about 28% were directed to technologies used specifically in solid construction balls. About 22, or approximately 9% of the patents were specific to wound construction balls, and that the rest related to technologies that were of general applicability to either type of ball. This data shows that we were doing substantial research directed to solid construction balls before 1999, and that we were awarded many US patents in that area. Solid construction technology was an area where we were engaged in substantial research and development long before 2000, and the patent data certainly documents this fact.

- 58) In addition to securing our own patents, Acushnet also reviews patents from our competitors. As this is a crowded art, reviewing patents that issue is a good way for us to keep track of what our competitors are doing in terms of research and developments. We do not read patents to copy or mimic what our competitors do, but rather we try to stay current on areas where our competitors are doing research. In my experience, every manufacturer does the same thing, and this is a common practice in the golf ball industry.
- 59) We also review patents to try and be sure we do not infringe valid patents of others. I am not a patent lawyer, and when these legal issues come up we have patent lawyers who help us. The patent lawyers help us determine which of our competitors' patents are valid, and what the patents of our competitors cover.
- 60) However, from my perspective as head of research and development, I know that we sometimes design our products to avoid infringing the patents of our competitors. One example is the Bridgestone patent No. 5,252,652. This patent relates to using about 0.05 to about 2 parts of a sulfur compound (such as PCTP or a zinc salt of PCTP) when making a golf ball core. When we were investigating using PCTP in golf balls, we located this patent. Now, we do not wish to infringe a competitor's patent, so we first contacted Bridgestone to see if they would license the patent to us. Bridgestone first said they would, then later refused.
- 61) In order to be sure we did not infringe this patent, we used much more than 2 parts of the sulfur compound in the Pro V1. We use about 15% more PCTP than

what is covered by the Bridgestone patent, even though the PCTP is expensive. However, by doing so, I feel confident that we are outside of the Bridgestone patent, if that patent is valid. This is a good example of how by reviewing patents we sometimes can design our products to avoid infringement of competitors' patents.

- 62) I understand that the patent system promotes innovation by encouraging companies like ours to "design around" and avoid competing patents. That is exactly what happens sometimes in our company. When faced with competitor patents in an area, we seek to innovate to find new solutions to allow us to sell products that are not covered by competitor patents.

DISAGREEMENTS WITH THE BLAIR DECLARATION.

- 63) While I disagree with many things in the Blair declaration, there are several very fundamental errors made in that Declaration. Blair erroneously asserts that the seven Bridgestone patents in suit establish that Bridgestone is "a leader in the development of new solid golf ball technology." (Blair Declaration at 19). Blair wrongly asserts that these patents "improved the performance of solid balls, eliminating the need for players to choose between a solid core ball for distance, and a wound ball for spin and control." (at 20). Likewise, Blair wrongly tries to create the illusion that these seven Bridgestone patents are responsible for the success of solid golf balls, and even asserts that these balls were the reason for Tiger Woods' success on tour. Blair is either very misinformed, or simply wrong about these issues.

Bridgestone was not the leader in solid golf ball technology.

- 64) First of all, the notion that Bridgestone was the leader in the development of solid construction balls during the 1990 is simply and objectively wrong. Two-piece solid construction golf balls were well advanced and widely sold by many manufacturers BEFORE Bridgestone entered the US market in any meaningful way. The first multilayer solid golf balls broadly disclosed were those of Kasco which were sold in Japan and repeatedly presented at golf trade shows in the US beginning in the mid-1980s. Wilson was the first to manufacture and market a

multilayer ball in the US. The Top Flite Strata series of golf balls appeared in the US market before Bridgestone. The Top-Flite Strata ball is generally credited by industry sources as the first commercially available multi-layer golf ball available on tour.

65) Likewise, the earliest patents in multilayer design do not belong to Bridgestone. Bridgestone has not been first to disclose, first to market or first to patent. I do not believe they have ever had leading market share in multilayer designs and certainly since early 2001 Pro V1 has held the largest share among any golf balls and been the most widely used ball in professional golf. While I have many times expressed that Bridgestone makes quality golf balls, I can find no support for the claim that Bridgestone is the “leader in the development of solid construction balls.”

66) In terms of volume of solid construction golf balls made and sold, Spalding, Top-Flite, and Acushnet are clearly the industry leaders, not Bridgestone. Likewise, in terms of solid construction research and development, Spalding was securing patents on multi-layers golf balls in the 1980s. See, e.g., Nesbitt, No. 4,431,193; Molitor, Nos. 4,274,637 and 4,674,751. After Wilson introduced the multi-layer Ultra Tour Balata in the early 1990s, Acushnet and most other golf ball companies were actively researching multi-layer golf ball technology in the early 1990s. Bridgestone was no different from any other competitor in this regard. Nearly everyone in the industry would regard Acushnet as one of the leaders in this technology in my view.

67) Bridgestone was one of many competitors in the 1990s. Like nearly all competitors, it filed patents on solid golf balls and multi-layer technology during the 1990s. Acushnet filed many such patents as well. Bridgestone was one of many competitors. Bridgestone was smaller than most in terms of sales, and better than some in terms of product quality. However, Blair’s attempt to portray Bridgestone as the leader in solid ball construction in the 1990s is simply wrong and factually unfounded.

The patents in suit are not responsible for the success of solid, multi-layer balls.

68) Blair's contention that the Bridgestone patents in suit are responsible for the success of solid golf balls, or that these patents "eliminate[ed] the need for players to choose between a solid core ball for distance, and a wound ball for spin and control" is entirely wrong and displays a genuine lack of understanding of our business.

69) Initially, I note that Blair provides absolutely no basis (other than he says so) to support his conclusion that these Bridgestone patents are the reason for the success of solid golf balls. Witness:

- a. Blair cites no industry sources or other objective sources for his conclusion that these patents are the reason for the success of solid construction, multi-layer golf balls. There is no such evidence, to my knowledge.
- b. Blair notes that Bridgestone introduced solid golf balls, like the Altus Newing, that were successful in Japan. However, Blair offers no reason to believe that these Bridgestone balls use the technology of any of the patents in suit, or that the success of these balls in Japan is any way attributable to the use of these patents.
- c. While Blair relies at length on Tiger Woods' success with a Bridgestone made ball, he provides no evidence that that ball used any of the Bridgestone patents in suit or that the Woods' success was attributable to these patents. Most people in the industry, I suspect, would attribute Woods' success to his skill and performance. I have never heard anyone attribute Woods' success to the Bridgestone patents in suit, and I certainly do not attribute Woods' success to these Bridgestone patents.

70) The fact that Bridgestone got seven patents over the 1990s and 2000s itself certainly does not show that these patents are the reasons why solid golf balls are successful. As noted above, there are thousands of patents in this art and certainly hundreds of patents on solid construction golf ball. Blair simply has no reason to conclude that these seven Bridgestone patents are reason solid golf balls or multi-layer solid golf balls were successful.

- 71) Reading pages 18-20 of the Blair report, it appears that Blair was confused or misled by the fact that some of the patents in suit describe their objective as giving exceptional driving distance to the ball while having good spin and feel characteristics around the green. It appears that in reading this, Blair may have concluded that Bridgestone invented the idea of a solid ball that would have good distance off the tee, while having the feel and spin of a wound ball on approach shots to the green. If so, Blair is very wrong.
- 72) The reality is that those in the art have known since the 1980s that a multi-layer solid golf ball had the potential to create a long traveling ball with good spin and feel characteristics. These objectives are recited in the Spalding patents from the 1980s (such as Nesbitt and Molitor above) and have been recited by most solid construction and multi-layer golf ball patents since then.
- 73) The concept of combining the driving distance attribute of solid two-piece golf balls with the feel and short game control of soft-covered wound balls was well established by the late 1970s. Many golfers had begun to use both types of balls within a single round of golf, alternating ball types according to the nature of individual holes or wind direction. The USGA held the opinion that this practice was "taking away some of the skill required to play the game." This quote appears in an April 1979, *Golf Digest* article describing the USGA's plan to implement a rule limiting players to the use of a single ball type within a round of competitive golf. (*USGA Adopting "One-Ball" Rule*, attached, exhibit B). Publications including the idea of combining these attributes within a single ball also appeared as early as 1979. In December 1979, *Golf Digest's* 1980 Equipment Preview: *How to Pick the Right Ball for Your Game* (attached, exhibit C) reports a Dunlop assertion that the Black Maxfli XLT-15 combines "the best of both worlds." This "best of both worlds" premise has driven two-piece and multilayer solid golf ball product development since that time. The idea is more than 25 years old. The objective was restated through the 1980s and 1990s by multiple parties. The reason for the success of the Titleist Pro V1 beginning in 2000 is that like no other ball before it, Pro V1 delivered the combined attributes of long

- distance off the tee with soft feel and control into the green. The market's response to the Pro V1 clearly indicates that something new had been created.
- 74) To emphasize this point, we went back and reviewed prior art patents in the area of solid golf balls and multi-layer solid golf balls. We found over 55 Spalding patents, some going back into the 1980s, that say they are directed to or provide the benefit of long distance off the tee plus soft or good feel and spin around the green. We found over 20 Callaway patents that say the same thing. We found over 60 Sumitomo patents that say essentially the same thing. Perhaps more to the point, we found over 150 Bridgestone patents that recite this "long and soft" design objective. It seems that this is just something Bridgestone said in nearly every patent application it filed on solid construction golf balls.
- 75) In short, the twin goals of "long and soft" are a design objective in undertaking nearly all solid construction golf ball design. The recitation of this goal is ubiquitous in solid golf ball patents, and there is nothing at all special or noteworthy about the fact that the "long and soft" goal was recited as a goal of the patents in suit. Moreover, there is no reason to think that these patents in the lawsuit were the particular ones that "eliminate[ed] the need for players to choose between a solid core ball for distance, and a wound ball for spin and control" as Blair incorrectly asserts.
- 76) Simply stated the Bridgestone patents in suit did not invent multi-layer solid golf balls and did not invent solid golf balls that for the first time imparted long distance, low spin, or good playability to solid balls. These objectives were known to be desirable long before the patents in suit and were a design objective of nearly all research in solid golf balls. Blair badly distorts this reality.

Acushnet was not "slow to react."

- 77) Finally, Both Mr. Blair and Mr. Calabria try to paint Acushnet as a "wound ball company" that was slow to react to the advent of solid golf ball construction. Once again, they greatly misstate and overstate the actual facts.
- 78) The facts simply do not support or bear out the conclusion that Acushnet was "slow to react" to competition from solid construction golf balls.

- a. As noted above, Acushnet sold our first solid golf ball in 1980, years before Bridgestone sold one in the US.
- b. By the 1990s, we were one of the top 2-3 sellers of solid golf balls in the US.
- c. By 1994 approximately 50% of our golf ball unit sales were of solid golf balls.
- d. We had a wealth of solid golf ball technology at our disposal, and we invested heavily in solid golf ball technology throughout the 1990s.

79) I, and others at Acushnet, understood that solid golf balls could one day be a technology that professional players wanted to play. Mr. Calabria, as a member of Acushnet Company, even tested early versions of urethane two-piece solid balls with Tour and other professional golfers. We recognized that certain objective facts about the game of golf could make solid construction balls a design that increased in interest.

- a. Solid golf balls could be made to travel a long way off the tee. The golf ball industry knew this for a long time.
- b. In all other segments of the game other than among Tour players, solid construction golf balls were well accepted, and solid construction technology was improving every year.
- c. The pros were becoming better athletes, were better conditioned than ever before, and generally demonstrated a better work ethic than in the past. As a result they could consistently swing the club harder. Distance would follow from this higher club speed, and it was reasonable to wonder whether professional players would come to demand golf balls that would provide them greater distance.
- d. The equipment players used was getting better every year and balls could be hit farther. In particular, the advent of metal woods, oversized metal woods, and titanium drivers made the widespread use of solid construction, long distance balls more plausible.
- e. The use of launch monitors, pioneered by Acushnet with the AGC was becoming widespread. Acushnet had built more portable versions and

through the 1990s was both testing and educating golfers. The launch parameters necessary to achieve long driving distance were being discussed in terms of angles, speed and spin. Products were being evaluated in light of their capability of achieving optimized parameters. It was well known that lower driver spin could be achieved with solid designs. This activity was similarly taking place in Japan notably by Bridgestone using their Science Eye devices. Anyone associated with the design of golf products through this period knew well that the goal was to achieve the combination of two-piece distance ball launch conditions off the driver and soft-covered wound ball performance into the green.

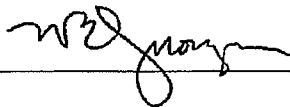
- f. In light of all of this, the demand for solid golf balls that could be driven a long way yet still have soft feel and improved control into the green was quite foreseeable to me.

80) I maintained substantial research and development at Acushnet in solid construction balls and multi-layer balls during the 1990s for several reasons. A large percentage of our sales were of solid construction balls, and in R&D we were constantly seeking to improve those products. From the beginnings of Acushnet Company we have always looked for ways to make better golf balls and exploring new construction technology and new materials is how that is done. It is the history of our company and the history of our success. In this respect there was nothing unusual about our work to develop solid construction or multilayer golf balls.

81) However, in addition, we have long built the Titleist brand on, among other things, acceptance by the premier players in the game. If the premier players were to desire to play a solid construction ball, I believed that Titleist needed to be prepared to provide one, and I devoted a significant amount of my research budget to investigating this technology. John Calabria (in the 1980s) and others would test solid constructions with tour professional years before they gained widespread use on the tours. Tour player feedback to prototypes created and tested in our laboratories would steer us in the direction that would lead to products like the Titleist Pro V1. It is no accident that when we introduced the

Pro V1, it became the leading ball on tour and in the market. My team had spent years working to develop our own technology. The results speak for themselves. 82) Far from being slow to react, we were very prepared, executed better than our competitors, and developed the best solid ball on the market using Acushnet technology.

I declare, under penalty of perjury, that the foregoing is true and correct.



William E. Morgan

Executed on: 20 Feb. 2007

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**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

BRIDGESTONE SPORTS CO., LTD.,)	
and BRIDGESTONE GOLF, INC.,)	
)	
Plaintiffs,)	
)	
v.)	
)	
ACUSHNET COMPANY,)	C. A. No. 05-132 (JJF)
)	
Defendant.)	
)	

DECLARATION OF GERALD (JERRY) M. BELLIS

I, Gerald (Jerry) M. Bellis, hereby state as follows:

- 1) I am employed by Acushnet Company ("Acushnet"). I am currently the Executive Vice President of Titleist Sales and Marketing Worldwide. I have been employed by Acushnet since 1983. I joined the company as a market analyst, an entry level position. I worked my way up through product line responsibility at Acushnet. I was a product manager for golf accessories, a Business Manager for various products, Director of all golf ball products, and finally assumed responsibility for the sales and marketing of all products bearing the Titleist brand. I have spent the last 24 years marketing golf related products, primarily golf balls, in the Acushnet company.
- 2) I was awarded my BS in Business Administration from Bentley College in 1982 and did graduate work at Babson College.
- 3) I was a competitive junior golfer in New England, played on the University of Florida golf team, and was captain of Bentley College golf team. I continue to be

an avid golfer and have been Club Champion at New Seabury CC and The Ridge Club.

QUALIFICATIONS.

- 4) I have been involved in the marketing and sales of golf balls for over 24 years. I have personal knowledge of the changes in the golf ball marketplace during those times. I have also investigated Acushnet's prior history in the golf ball business from company records and the like. In 2006, I acted as a moderator for a film, called *A Passion for Excellence*, that we prepared to celebrate the history of quality products Acushnet has designed and sold under the *Titleist* brand name.
- 5) By my education and first hand experience in the industry, I am qualified to testify as an expert in the golf ball marketplace, the innovations in the golf ball marketplace, and the real world acceptance and use of golf ball products among professional golfers, skilled amateurs, and novice golfers.
- 6) I have not authored any articles in the past ten years.
- 7) I have never testified before as an expert. I am not being paid by Acushnet to testify as an expert witness. I am employed by Acushnet and draw a salary, but my compensation is in no way dependent on my testimony or the outcome of the case.

ACUSHNET COMPANY, ITS HISTORY AND ITS APPROACH.

- 8) Initially, I want to address our company, our commitment to quality and innovation, and the manner in which we market our products. I have read the declarations of Messrs. Blair and Calabria. Those declarations very badly misrepresent our company, our success, our commitment to quality goods, and the innovation driven excellence that we insist on to serve all of our customers. I initially want to set that record straight.

Vision and Mission

- 9) Acushnet started its golf ball business in 1932 with the mission of providing the serious golfer with a golf ball that is quality and performance superior to all other golf balls available. The Titleist golf ball originated from the pursuit to make golf a more rewarding test of skill by guaranteeing the same performance excellence in

every golf ball. The vision was to establish a single brand that represented the highest quality and performance standards, and a brand endorsed and recommended by the golf professional and golf pro shop, as being the best person and place to represent and reinforce Titleist's premium quality and performance.

- 10) This mission is also based upon the premise that by delivering to the quality and performance expectations of the best players in the world (the pyramid of influence), Titleist will to deliver the golf ball quality and performance promise to all golfers. Today, our mission still remains the continued pursuit of performance superior and quality superior golf balls, through better designs and better manufacturing processes.

History Overview

- 11) In 1932, Phil Young, a dedicated amateur golfer and owner of a precision molded rubber company, missed a well-stroked putt in a match with his dentist. Frustrated that no matter whom the manufacturer, never more than two out of any dozen balls ever performed to the same expectations, Young and his opponent went to the dentist's office, x-rayed the golf ball in question and found that its core was, in fact, off-center.
- 12) With his discovery, Phil Young persuaded Fred Bommer, a fellow MIT graduate, rubber specialist and avid golfer, to head up the Acushnet Golf Division. They set out to develop the highest quality and performance golf ball; one that would be uniform and consistent in quality, ball after ball. It took Young and Bommer three painstaking years to perfect the first Titleist golf ball, but when it was ready in 1935, it could truthfully be introduced to club professionals and golfers as the best golf ball ever made.

Process Excellence

- 13) Applying a lesson well learned, Young implemented a quality control check that is still in practice today. Every balata ball then and every Pro V1 and Pro V1x golf ball now was and is x-rayed. Through the years, advancements in and new process technologies have allowed us to further tighten our manufacturing tolerances.

Computers and quality assurance teams monitor every stage of the manufacturing process, utilizing best-in-class equipment to achieve the most exacting standards in the industry.

- 14) For over 55 years, all Titleist golf balls were produced at Ball Plant 1. The design and process technologies evolved from making only liquid center wound balata-covered golf balls to also producing the additional technologies of solid center wound balata-covered, solid center wound Surlyn-covered, solid center Surlyn-covered, liquid center wound Surlyn-covered, liquid center wound Elastomer-covered and solid center Elastomer-covered.
- 15) In 1990, Ball Plant 2 started production to expand capacity and with a focus on making solid construction Surlyn-covered technology products. Ten years later, in 2000, Ball Plant 3 started production to expand capacity and with a focus on making multi-layer, solid construction elastomer-covered technology products.
- 16) A belief that a better process will result in a better quality and performance product has been constant throughout Titleist's history. An unwavering commitment to continuous improvement and performance and quality excellence are core values of the Titleist tradition.

Design Excellence

- 17) After significant advancement in the quality and performance of the golf ball through a better process, the next advancements in Titleist golf balls came with a commitment and emphasis on research and development to design a better performing golf ball. Titleist developed the first mechanical golfer to provide true tests of new product designs and was the first to use a stroboscopic camera to measure golf ball deformation and recovery at impact.
- 18) In the 1960's, Titleist embarked into the advancement of golf ball aerodynamics with the use of wind tunnel testing and computer analysis. Titleist was also the leader in cover technologies in pioneering the use of synthetic balata and later the cast urethane covers for Tour-played golf balls.
- 19) Titleist is also the pioneer in understanding the launch conditions (speed, angle and spin) of a golf ball after impact and their effect on golf ball performance. With the

development and use of a launch monitor, Titleist determined the launch conditions of different types of players from professionals to serious amateurs to recreational golfers to best design golf balls to meet their different specific needs.

- 20) The design of Titleist golf balls also continued to evolve along with the onset of stronger and faster swings and impacts by the player and with the evolution of golf club designs (square grooves and oversize metal drivers) as these all affect the launch conditions and optimum ball performance and design. Our talented golf ball development teams continually challenge themselves to implement technological advancements in the design, material and manufacturing process of our golf balls.

Pro Partnership Excellence

- 21) Part of the vision of Titleist is that it be the leading brand of the golf professional and the golf pro shop, as being the best person and place to represent and reinforce Titleist's premium quality and performance. The personal use, endorsement and recommendation by the golf professional was the foundation of Titleist's early success and remains an important competitive advantage today.
- 22) The golf professional and on-course market remains the top priority for Titleist. Titleist golf ball usage by the PGA Golf Professional is over 80% and our on-course market share is near 70%.

The Pyramid of Influence

- 23) The Pyramid of Influence strategy is that the very best golfers would demand and prefer the very best product to maximize their performance, and that serious amateur golfers would watch and follow the example established by those professional golfers. The Titleist Pyramid of Influence strategy is that this is best accomplished and most effective when a golf ball is the most preferred by many golfers rather than the ball of choice or endorsement by an elite few.
- 24) This strategy has been successful in making and keeping Titleist the #1 ball in golf without the endorsement of many of the game's top ranked players, such as Sam

Snead, Ben Hogan, Arnold Palmer, Jack Nicklaus, Greg Norman, and now Tiger Woods.

- 25) 1949 was the year Titleist first established itself as the #1 ball in golf by being the most played ball at the U.S. Open. Titleist has been the most played golf ball at the U.S. Open each year for 58 consecutive years. For the past 25+ years, Titleist has been played by the majority of professional players on the U.S. PGA Tour and more than all other golf balls combined. This strong preference for Titleist golf balls also extends to Professional Tours around the world, as well as to PGA Golf Professionals, US Amateurs, NCAA players and US Juniors.

Marketing Excellence

- 26) Throughout Titleist's history, a commitment to marketing has helped further elevate the brand and product image, market shares and sales. Titleist is a leader in golf ball advertising while promoting its Pyramid of Influence success via its Leadership Advertising. Additionally, major Titleist models, or micro-brands also are supported by product specific advertising that communicates the features and benefits to the target market.
- 27) Titleist was a pioneer in increasing the investment in packaging as a means to enhance the image of its products and communicate the features and benefits of its product. Titleist is also the leader in investment toward in-shop merchandising which is best represented by the Titleist "Merchandising Matters" campaign of 2004. In the past 10 years, Titleist has increased its annual marketing investment from under \$10 million per year to over \$15 million per year, and during that time Titleist's consumer share has increased from just over 40% to just over 50%

Product Excellence

- 28) Titleist has a long history of significant product success as a result of its commitment to excellence in the areas of process, design, pro partnership, pyramid of influence and marketing. In the 1960's, the Titleist K2A established itself as the leading golf ball of professional golfers. In the 1970's, the Titleist DT was introduced and this Durable Titleist model is still in the line today with near 100 million dozen Titleist DT golf balls sold during its 30-year dynasty. The solid core

Pinnacle golf ball was introduced in 1980 and its sales are still strong 25+ years later, making it the #2 (behind Top-Flite only) most selling solid core golf ball of all time.

- 29) In the 1990's, the Titleist Professional was the pioneer of modern cast urethane technology and became the leading ball of professional and skilled amateur golfers. The Titleist Pro V1 was introduced in late-2000 and has since become the overwhelming favorite among both professional golfers, and with amateur golfers as recorded by its market share of over 20% in golf shops.

People Excellence

- 30) Titleist golf ball history of success is the result of great product that was designed, produced, promoted, sold and marketed by great people. Our goal is to perpetuate and strengthen the original vision and mission of our Founding Fathers of near 75 years ago by providing the serious golfer with a golf ball that is quality and performance superior to all other golf balls available.
- 31) As noted above, in 2006, we produced a film entitled *A Passion for Excellence*, to document and celebrate our rich history of producing innovative, quality products under the *Titleist* brand. If permitted by the Court, I am prepared to show that film, or excerpts from that film to the jury to help them understand our commitment to excellence and quality products, to help correct the very inaccurate impression that is created by the Blair and Calabria Declarations.

THE SUCCESS OF ACUSHNET'S SOLID AND WOUND GOLF BALLS.

- 32) The Blair declaration asserts that Acushnet was a "wound ball company" and asserts that Acushnet is not innovative and was slow to react to the development of solid construction golf balls. These allegations are very uninformed and just wrong.

Acushnet Solid Golf Ball History

- 33) The reality is that Acushnet has always been a leader in solid golf ball technology. We introduced our first solid construction ball in 1980, over a decade before

Bridgestone did. In 1980, we introduced the Pinnacle brand, a two-piece golf ball technology targeted at a new, large target audience demanding exceptional distance. Its no-cut, money back guarantee challenge took Top-Flite's solid construction balls head-on. By 1987, Pinnacle solid core technology improved with Pinnacle 384, the "Distance and Durability Sensation", and in 1989, the Pinnacle Gold.

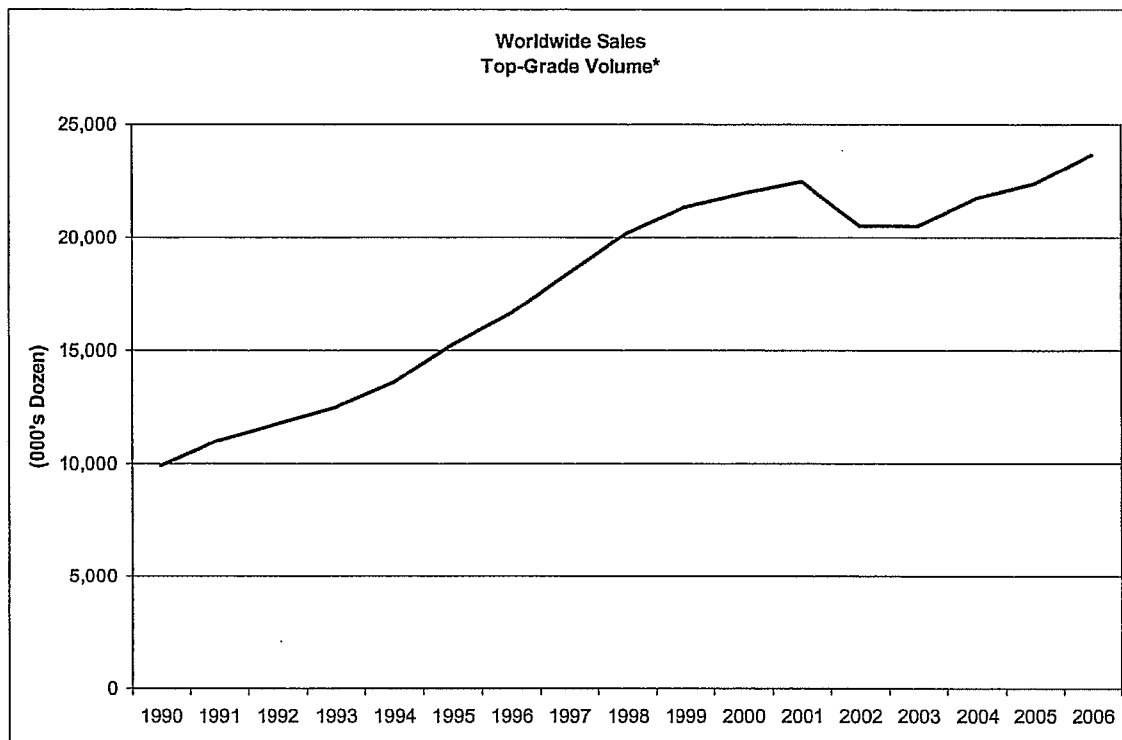
- 34) In 1988, Titleist broke ground for Ball Plant II, its second golf ball manufacturing facility. Ball Plant II was dedicated to the manufacture of solid technology golf balls. This plant gave us the capacity to make 6 million golf ball cores a year by 1991. By 1998, we had expanded that capacity to 18 million cores a year.
- 35) We introduced our first solid ball using the top of the line *Titleist* brand to the market in 1991, before Bridgestone had such a ball in the US. The first Titleist branded two-piece golf ball was called the HVC. The result of five years of development and 11 patents, HVC was manufactured in Titleist's new, fully integrated, state-of-the-art facility producing the most advanced two-piece golf ball available.
- 36) In 1993, Titleist introduced the HP2 as "The Player's Two-Piece Ball." Featuring large core technology (1.580" and largest of any two-piece ball) and a very thin, soft Surlyn cover. The HP2 provided long driver and iron distance along with optimum spin for better control than other two-piece golf balls.
- 37) In 1995, Titleist rolled out a new solid technology golf ball on the PGA Tour, the HP2 Tour. Pro golfer Corey Pavin won several tour events with this ball, including the 2005 Skins Game and 2005 Million Dollar Challenge, over \$1.2 million in just two events.
- 38) In 1998, we introduced the new and improved HP2 Tour and HP2 Distance golf balls. New HP2 Tour featured advanced core technology, retaining the largest core of any two-piece golf ball (1.580"), and a new cover formulation for longer distance. New HP2 Distance also featured advanced double cover technology for extremely low spin for long, straight flight.
- 39) In the first half of 2000, the new HP Tour, HP Eclipse and HP Distance were introduced, offering three companion solid construction technology golf balls.

New HP Eclipse featured Titleist's advanced dual core technology for extremely low driver spin for long, straight distance with high partial wedge spin for short game control. We also opened Ball Plant III to add further solid golf ball capacity in 2000.

- 40) In October 2000, we introduced the Titleist Pro V1. The Pro V1 and Pro V1x have become the most successful balls in the history of golf. They far outsell all competitors. The Pro V1 and Pro V1x are used by more golf professionals, skilled amateurs, and other players than any other ball in the game. They are far more successful than the balls made by Bridgestone. In my opinion, this is due to the superior product we make using Acushnet technology, our superior quality control and product reliability, the strength of our Titleist brand, and the advantage we secure when professionals and other highly skilled golfers play our ball.
- 41) As you can see, the objective evidence shows that Acushnet has been a leader in solid construction golf ball technology since 1979. Acushnet (and of course Top-Flite) have been the leaders in solid construction golf ball technology for decades. Any suggestion to the contrary is simply uniformed and mistaken.

“Wound Ball Company”

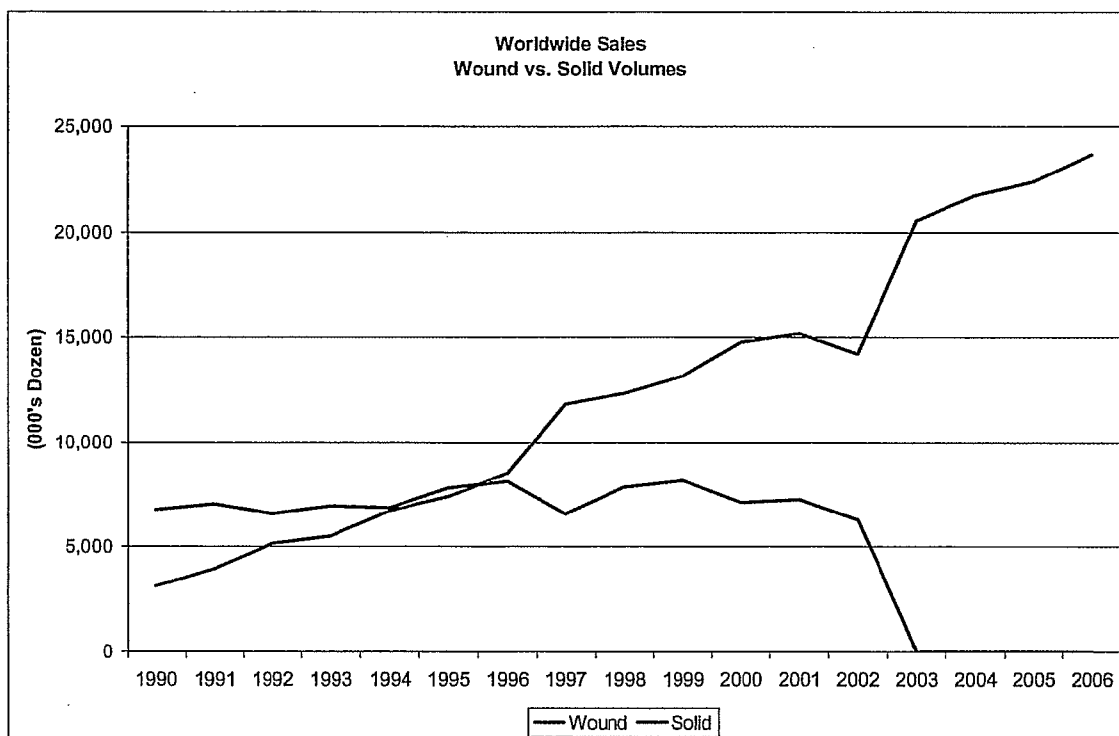
- 42) Let me next address the suggestion, throughout the Blair declaration, that Acushnet was a “wound ball company” and that we were harmed by competition from solid construction balls during the 1990s. Let me start with some objective data.
- 43) The following chart shows our sales of “Top-Grade” golf balls during the period 1990 to present.



44) As you can see, the period 1990-present has been an era of phenomenal growth for Acushnet. Our sales have grown from about 10 million dozen in 1990 to approaching 25 million dozen today. Far from “struggling” or “slow to react” the data demonstrates that we have been a consistent leader in technology and market acceptance.

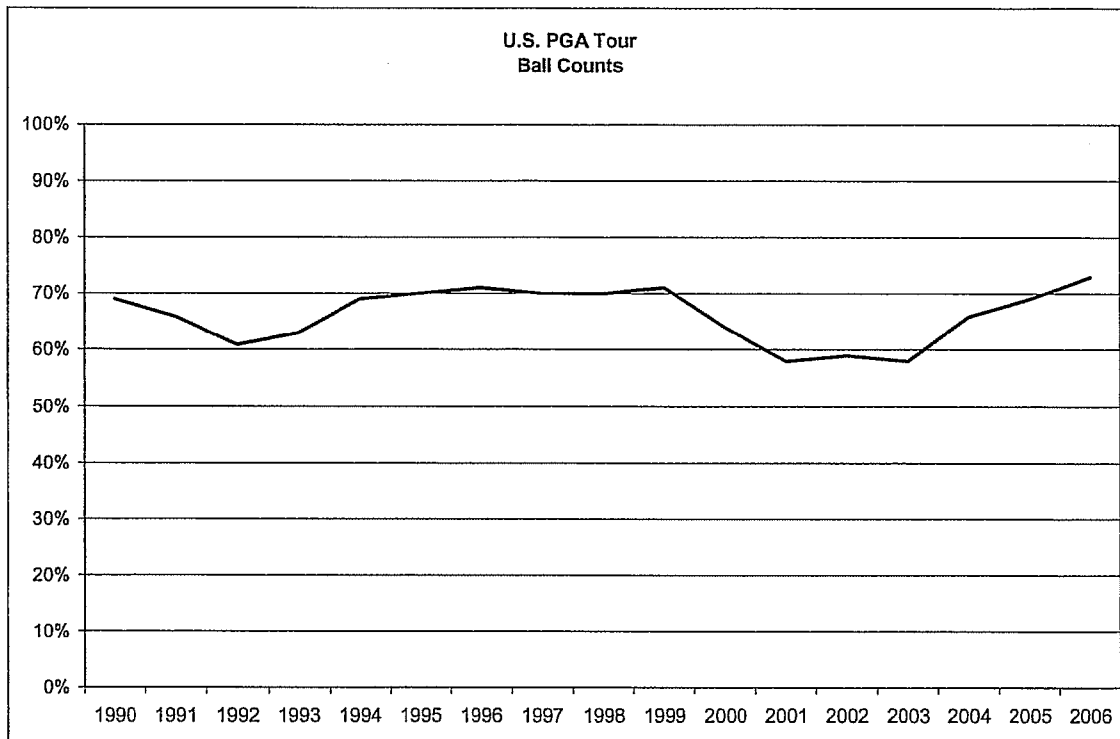
45) Let us next look as how our sales of wound golf balls compare with sales of solid golf balls over the same period. Recall that we introduced our first solid construction golf ball in 1979, so by 1990, we had a rich history of success with solid golf ball technology.

46) The chart below compares our sales of wound golf balls and solid construction golf balls during the period 1990- present.



- 47) As you can see, our solid construction ball sales were already nearly 4 million dozen in 1990, or about 36% of our total golf ball sales in 1990.
- 48) Solid construction golf balls caught up with wound ball sales in 1994, and from 1994 to 1996, our sales of solid construction golf balls and wound balls were about the same in terms of volumes.
- 49) By 1996, we were already selling more solid construction golf balls than wound balls. This gap grew during the second half of the 1990s. This is all before the introduction of the Pro V1. Unlike what Mr. Blair suggests, we had a very successful top quality line of solid construction golf balls in the 1990s, all of which we developed ourselves and none of which were copied from Bridgestone.
- 50) The Blair and Calabria declarations try to create the impression that solid construction ball technology was a threat to Acushnet during the 1990s or that we were suffering on tour and among professional golfers because our premium golf ball offering was a wound-construction ball call the *Professional*. Once again, the objective data completely rebuts this claim.

51) Below is a chart showing the percentage of PGA Tour golfers who played a Titleist golf ball from 1990 to present.



52) As you can see in 1990, about 70% of PGA tour golfers played a Titleist ball. At the time, that ball would have been our 384 Tour, a balata covered wound golf ball. The percentages of golfers using Titleist balls were similar, and even higher, among club pros and among amateurs (who are not paid to play any ball). We call these figures "Leadership Counts." This is the Leadership count data we have from 1990. Our major competitors then were Spalding, Dunlop, Wilson, Slazenger.

	Ball Count
PGA Tour	69%
US Open	73%
PGA Club Pro	90%
US Amateur	80%

53) The chart shows that in 1990, 69% of players at PGA Tour events played Titleist balls. Similarly, 73% of players at the US Open tournament played Titleist, 90%

of the players at the PGA Club Professionals National Championship tournament played Titleist, and 80% of the players in the US Amateur championship played Titleist.

- 54) During the first half of the 1990s, our share of PGA golfers varied between 60-70%. These players were playing Titleist balls, with wound construction. As you can see, the demand for wound construction balls was strong and consistent throughout the early 1990s. Mr. Blair's assertion that some sort of revolution (Mr. Calabria calls it a "paradigm shift") occurred in the early 1990s causing a movement to solid construction golf balls is wrong and completely unsupported. Throughout the 1990s, the tour golfers desired wound construction golf balls, and overwhelmingly played the Titleist ball.
- 55) Contrary to the suggestion that we were a "wound ball company" in the 1990s, we in fact had a full line of technologies that we offered to the players, both solid balls and wound balls. For example, here is a list of our product offerings in 1999, the year before the Pro V1 was introduced.

Titleist Golf Balls	Technology
Professional	Liquid center, wound, elastomer cover
Tour Prestige	Liquid center, wound, elastomer cover
Tour Balata	Liquid center, wound, balata cover
Tour Distance	Liquid center, wound, Surlyn cover
HP2 Tour	Solid core, Lithium Surlyn cover
HP2 Distance	Solid core, soft mantle layer, Lithium Surlyn cover
DT Wound	Solid center, wound, Lithium Surlyn cover
DT 2-Piece	Solid core, Lithium Surlyn cover
Cobra Golf Balls	
Dista TSS-105	Solid core, soft inner mantle, Surlyn cover
Dista HSS-95	Solid core, soft inner mantle, Surlyn cover
Dista MSS-85	Solid core, soft inner mantle, Surlyn cover
Dista LDY-75	Solid core, Surlyn cover
Pinnacle Golf Balls	
Titanium Extreme	Solid core, Titanium cover
Extreme	Solid core, Lithium Surlyn cover
Gold LS	Solid core, Lithium Surlyn cover
Equalizer	Solid core, Lithium Surlyn cover

For Women	Solid core, Lithium Surlyn cover
Junior Extreme	Solid core, Lithium Surlyn cover
392	Solid core, Lithium Surlyn cover
Power	Solid core, Surlyn cover

56) As you can see, in 1999, the vast majority of our golf balls had solid cores. We were very sophisticated makers of solid balls in the 1990s, and the suggestion that we were just a “wound ball” company, or that we were struggling somehow to introduce solid construction golf balls, is fatuously wrong, as anyone who was in the golf industry at the time could attest to.

57) The same conclusion is true through out the 1990s. Here are balls we offered in 1991. As you can see, were already selling a solid construction ball in 1991.

Titleist Golf Balls	Technology
Tour	Liquid center, wound, balata cover
384 Tour	Liquid center, wound, balata cover
384 Low Trajectory	Liquid center, wound, balata cover
DT	Solid center, wound, Lithium Surlyn cover
HVC	Solid core, Lithium Surlyn cover.
Pinnacle Golf Balls	
Gold	Solid core, Lithium Surlyn cover

All models available in 90 and 100 compression, with DT also offered in 80 compression.

58) Here are the balls we offered in 1995. Again, we sold many high quality solid construction balls in 1995.

Titleist	
Professional	Liquid center, wound, elastomer cover
Tour Balata	Liquid center, wound, balata cover
DT	Solid center, wound, Soft Lithium Surlyn cover
DT Wound	Solid center, wound, Lithium Surlyn cover
DT 2-Piece	Solid core, Lithium Surlyn cover
HP2	Large solid core, Soft Surlyn cover
HVC	Solid core, Lithium Surlyn cover
Pinnacle Golf Balls	
Distance	Solid core, Lithium Surlyn cover
Performance	Solid core, Lithium Surlyn/VLMI Surlyn cover
Gold	Solid core, Lithium Surlyn cover
332	Solid core, Surlyn cover

All models offered in 90, 100 compression, with DT also offered in 80 compression. Pinnacle no longer available in compression options.

- 59) Thus, as you can see, it is a serious misunderstanding or misnomer to refer to Acushnet as just a “wound ball company.” An informed participant in the golf ball business would not make such a mistake.
- 60) What is accurate and true is that, for many decades up through the 1990s, Tour professional golfers preferred the wound construction golf ball. Aside from Top-Flite, nearly all competitors in the market through the 1990s offered wound construction golf balls to the pro players.
- 61) Indeed, Bridgestone (who Mr. Blair tries to paint as a “solid golf ball company”) itself offered a line of wound construction balls to pro players during the 1990s. Nick Faldo won the Masters in 1996 using a Bridgestone wound construction ball. Very few players played the Bridgestone solid balls, though there were exceptions, like Nick Price.
- 62) When pro golfers preferred wound construction balls, Acushnet offered pro golfers the best available wound construction golf balls under the Titleist brand. A phenomenal number of pros, around 70% most years, preferred our wound construction balls to those of our competitors. Perhaps in this sense a competitor could consider us a wound ball company, but the reality is that pro players preferred the quality of the Titleist product to the wound balls made by our competitors.
- 63) When pro golfers started to prefer solid construction balls, Acushnet once again met that demand with the Pro V1, the most successful golf ball in history. We built the Pro V1 with our own technology garnered from over 20 years of experience with selling solid golf balls and over 10 years of experience with cast urethane and elastomer covers. Today, more pros (over 75% on tour) prefer our solid construction ball than any other. Using the same logic as in the past, our competitors would probably have to concede that today, on tour, we are the “Solid Golf Ball Company!”

Pro V1 Introduction.

- 64) The year 2000 was a momentous year for us. That was the year we introduced the Titleist Pro V1.
- 65) In the Summer of 2000, the “100 Player March” commences as prototype Pro V1 golf balls are tested with over 100 Titleist players on the PGA Tour. We took this extra measure because tour players had historically expressed a preference for wound balls and we wanted to be sure that the players wanted to change to a solid construction. The Pro V1 is a large core, multi-component urethane elastomer covered golf ball that provides players with exceptionally long distance, penetrating and tight ball flight, Drop-and-Stop performance into the green and soft feel.
- 66) In October, 47 players teed up the Pro V1 at the Las Vegas Invensys Classic, the first week that it’s available. It is the largest pluralistic shift of golf equipment usage in history. Billy Andrade won that tournament to become the first player to win with Pro V1.
- 67) In December, Pro V1 shipped to the market (accelerated from planned March 2001) and on-course share reaches 5.6% in just its first month. Titleist increases capacity to 24/7 to meet escalating demand.
- 68) By year-end, the Pro V1 phenomenon begins with tour victories, falling scoring records, media frenzy and “amateurs clamoring for long-flying, easy-to-control ball that pros rave about.”
- 69) The phenomenal success of the Pro V1 has been well documented. We have been the subject of articles, reviews, and stories in nearly every golf-related magazine. We even made the cover of the USA Today, which called the Pro V1 the “The Ball That’s Turning Golf Upside Down.” A copy of that story is attached hereto (Exhibit A). I will be prepared at trial to collect much of this industry acclaim and describe it in detail to the jury.
- 70) This was also the year that Tiger Woods switched from a Titleist Ball to a Nike ball, and the year that Callaway entered the market as a serious competitor. For the year 2000, the Leadership Count is shown below. As you can see, despite the new

found competition, skilled golfers continued to favor our product by a wide amount. It was clear the Pro V1 would be a stunningly successful product.

Leadership counts

Event	Ball Count
PGA Tour	64%
US Open	64%
PGA Club Pro	80%
US Amateur	74%

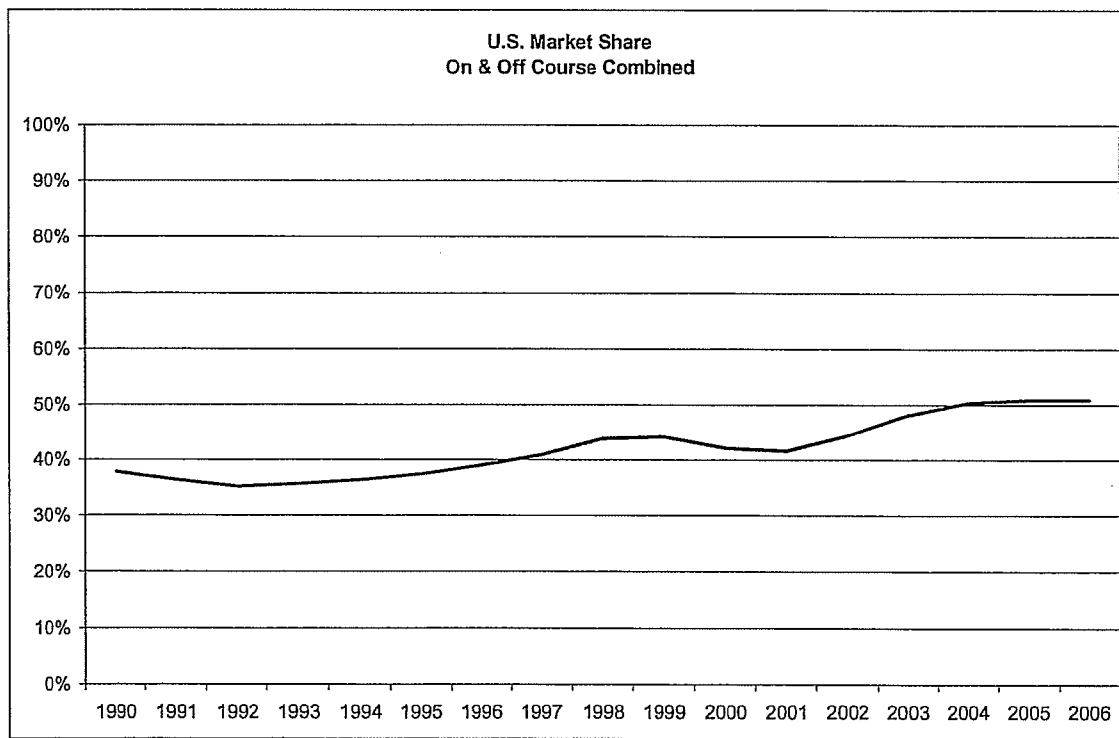
- 71) Since the introduction of the Pro V1 and Pro V1x, we have become, if anything, even more successful. While solid construction balls existed on the market for a long time, none has had anything remotely approaching the success we have had with the Pro V1 family.
- 72) The Pro V1's success on Tour and with golfers, in my view, is due to several factors. First, we have superior technology that delivers superior performance. We use a very large solid core, measuring 1.550" in diameter. Our core is larger than that of our competitors and gives the Pro V1 a bigger engine for more power and with good feel. We are able to achieve that larger core because of our manufacturing skill in applying a very thin casing layer and very thin cast urethane elastomer cover. We perfected the multi-layer technology we use on the Pro V1 over many years of development and sales of multi-layer and solid construction balls. We use a cast urethane cover that is better and more durable than our competitors. We still x-ray every ball, we maintain the most rigorous quality control standards in the industry and we continue to innovate and improve the ball.
- 73) PGA Tour players prefer the Titleist Pro V1 because of its outstanding distance, excellent feel and "drop and stop" control into the green, and along with the quality and consistency in every ball. No other ball has this most preferred total combination of performance.
- 74) The Pro V1's success in the market is because for the first time, the most preferred and most played golf ball by Tour Pros is also the best performing golf ball for most average skilled golfers. When the wound balata technology and performance was most preferred and most played by Tour Pros, it was not the best ball for most average golfers because it was less durable, had too much sidespin and not as long

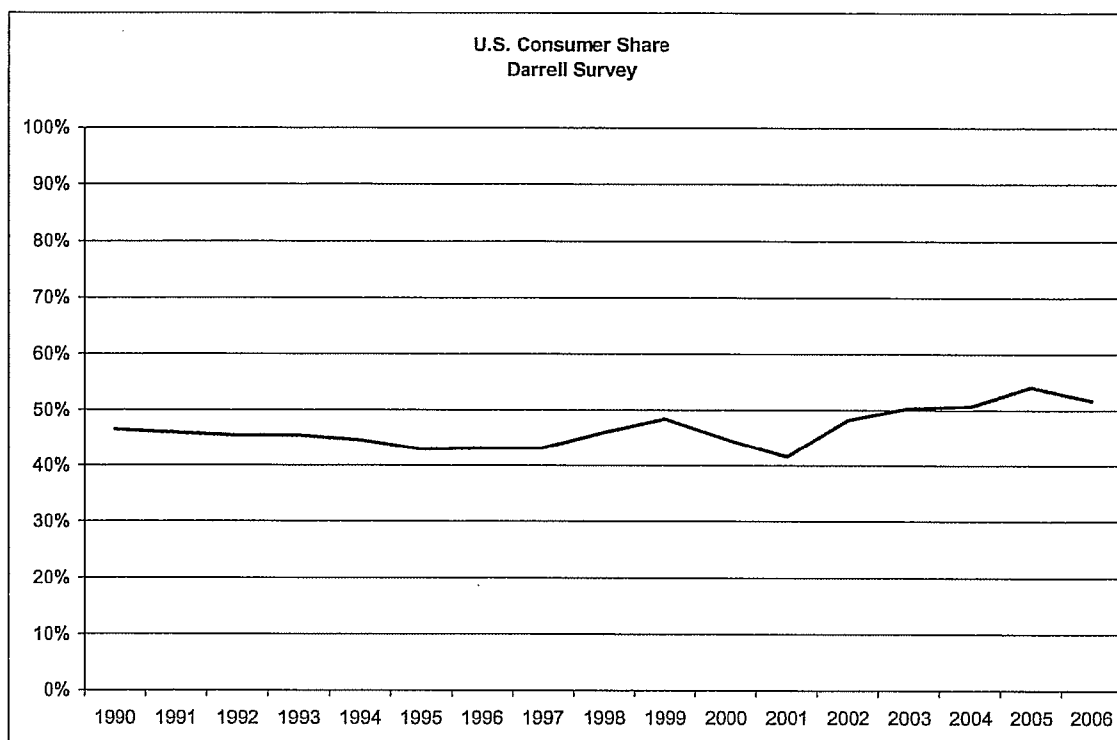
as other technology balls that better fit the performance needs for average golfers. Now, the Titleist Pro V1 provides outstanding distance, durability, not-too-much sidespin and with the added performance benefit of "drop and stop" control better than any other ball for most average golfers, just like it does for the Tour Pros.

Here are the counts for 2006, and as you can see, our Leadership position has only expanded since the introduction of the Pro V1.

	Ball Count
Worldwide Tours	74%
PGA Tour	73%
US Open	65%
PGA Club Pro	68%
US Amateur	90%

75) The success of our Titleist golf balls, solid and wound constructions, has of course not been limited to the PGA tour. Our share of all on and off course golf ball sales and share of golfers using our product have been steady throughout the 1990s, and the introduction of the Pro V1 has helped us improve even further our market shares. The following charts show this success:





76) Finally, in case the jury is interested, we are not done innovating on these products.

We introduced a new version of the Pro V1x in 2006. The first week the new Pro V1x is put into competitive play, Davis Love III wins the Chrysler Classic, the 877th victory with a Pro V1 golf ball since its original October 2000 introduction.

77) In February 2007, new “Better than Ever” Titleist Pro V1 and Pro V1x golf balls were launched. New Pro V1 features enhanced aerodynamics for a slightly higher flight for longer distance, soft feel and Drop-and-Stop control. New Pro V1x offers a softer cover and enhanced aerodynamics for a slightly lower flight for longer distance, softer feel and improved greenside playability.

Reasons for the Change to Solid Construction Golf Balls

78) It is certainly of interest to attempt to ascertain what caused the switch to solid construction golf balls among the pro players. In my view, several factors contributed to this change.

79) First, the pro golfers became bigger and better athletes in the 1990s. They became fitter, stronger, and better conditioned. As a result, they could impart higher club

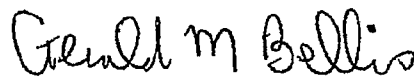
speeds to the drivers, and sought longer distance golf balls to complement their strengths.

- 80) Second, golf ball companies like Acushnet and Spalding improved their solid construction technology throughout the 1990s. Among all except the pro players, solid construction golf balls were well established and accepted by the 1990s.
- 81) Third, the advent of metal woods in the early 1990s, and the subsequent development of oversized metal woods and, in 1995, titanium metal drivers increased the demand for low spin, long distance golf balls.
- 82) The success that Tiger Woods had in 2000 with the Nike ball certainly raised the level of interest in solid balls, although most pros and other players did not switch to the Nike ball, or to the Callaway ball when that solid construction ball was introduced in 2000.
- 83) Finally, our successful introduction of the Pro V1 technology finally provided golfers with a solid construction ball that gave them the exceptional distance and other playing characteristics that golfers at all levels sought.
- 84) In my opinion, Bridgestone was not a leader or important force in the development of solid golf balls in the US market or on the US PGA Tour. For all of the 1990s, they were a minor player in the US golf ball market. In my opinion the leaders in solid golf ball development were Spalding/Top-Flite and Acushnet, as we developed and sold the most solid construction golf balls in the US and worldwide.

CONCLUSION

- 85) I reserve the right to supplement and expand my report between now and trial. I also reserve the right to develop demonstrative exhibits to demonstrate my testimony at trial.

I declare, under penalty of perjury, that the foregoing is true and correct



Jerry Bellis

02-20-2007

Executed on 20th February 2007.

Materials consulted in preparing this report

- 1) Darrell Survey Tour Counts 1961-2006
- 2) Darrell Survey Consumer Research 1990-2006
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- 5) Titleist catalogs and price lists 1957-2006
- 6) Titleist ad reprints 1935-2006
- 7) Titleist Finance dept and Jerry Bellis files for Titleist sales volumes 1972-2006
- 8) D. Young, A History of the Acushnet Co.; The First 70 Years
- 9) Titleist's USGA files on regulatory changes
- 10) *Golf World* 1990-2006
- 11) Media press clippings 2000-2006
- 12) MPG Media for Share of Voice reporting Ad Views and AdRelevance data 1992-2006
- 13) Historical archives inclusive of trade letters, memos, documents, interviews and media articles

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03/14/2001 - Updated 08:36 AM ET

New-generation ball shaking golf to the core

By Jerry Potter, USA TODAY

Something strange is happening in professional golf. Tiger Woods, the No. 1 player in the World Golf Ranking, has not won a tournament this year. But Joe Durant, who was ranked 208th at the beginning of this season, has won twice on the PGA Tour. Mark Calcavecchia, who hadn't won in two years, took the Phoenix Open in January with a score that broke the Tour record for a 72-hole event, a mark set in 1955. Durant won the Bob Hope Classic with a score in relation to par that broke the Tour's record for a 90-hole event.



Adam Butler, AF

Tiger Woods has been on the verge of winning this season, placing in the top 15 in five PGA Tour events.

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Mike Weir set another Tour mark in the first round of the Genuity Championship in Miami two weeks ago, when he shot 62 — the lowest one-round score by a left-hander.

If you believe the players and the buzz around the Tour, the single greatest reason for these developments is a new long-flying, easy-to-control golf ball called the Pro V1. It's a ball Woods doesn't use, and a ball recreational golfers can't wait to get their clubs on, even at \$54 a dozen.

"I don't think it's a coincidence," Durant says. "This ball has made that much difference in my game."

Manufactured by Titleist, a golf equipment company based in Fairhaven, Mass., the Pro V1 is the latest in a generation of golf balls that have large solid cores, as opposed to the more traditional construction, which involves small cores wrapped by elastic strands.

The Pro V1 is drawing raves from the pros, many of whom are under contract with Titleist, for providing extra distance on tee shots while still allowing players to control the ball's direction. The players say it even helps with their shorter shots and putting. To a pro golfer, that's the equivalent of no taxes and a free lunch.

Since the Pro V1's introduction in October, players using it have won 13 of 17 PGA Tour events, including nine of 11 this year. None of those victories belong to

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Woods, who used Titleist balls until last May, when he switched to Nike's Tour Accuracy, another solid-core ball.

"I certainly hope what we've developed is making a difference," says Wally Uihlein, the chairman and CEO of Acushnet Company, an equipment and apparel company that includes Titleist. "We're delighted by its success. We've never had an introduction like this. It's the No. 1 product story on the Tour. It's knocked everything else right off the front page."

The solid-core balls have been popular among recreational golfers for decades, but they were dismissed by pros because the early designs sacrificed control for distance.

Titleist's engineers seem to have solved that problem. When the ball was introduced, PGA Tour star Phil Mickelson dubbed it "The Tour Perfect." Others have lavished the ball with such praise that one might think it fetches if you whistle at it.

Calcavecchia likes the ball but says it isn't the only reason that pro golfers are performing better. "It's crazy to say that equipment isn't helping us," he says. "But golf is still golf. If you make a bad swing or a bad putt, you'll hit a bad shot. No piece of equipment will ever change that."

In addition, technological advances in club design — especially the development of metal woods — better manicured courses and the increased physical conditioning of the players have meant longer drives, easier approach shots to the greens, ideal putting surfaces and lower scores.

According to PGA Tour statistics, the average score per round in 1980 was 72.15 strokes, and the average driving distance was 256.8 yards. By 2000, those averages had changed to 71.11 strokes per round and 273.2 yards. This year, it's 70.58 strokes and 275.2 yards. The decreases in scoring average may not sound like much, but stretched over a four-day tournament, it means the average pro today is nearly six shots better per event than he was in 1980.

Winless Woods

Woods, other than a lack of the putting prowess that he exhibited last year, is playing roughly the same statistically — he just hasn't won while others are surging. What Woods accomplished last year was unprecedented. He not only won the U.S. Open, British Open and PGA Championships, three of golf's four major tournaments, he obliterated fields and set scoring records. His length off the tee and his deftness around the greens were intimidating to even the most accomplished pros.

All of this occurred immediately after Woods switched from a Titleist ball to a ball sold by Nike, which had been well known as Woods' apparel supplier, but never had been a significant presence as a equipment seller. Woods' success instantly gave credibility and marketability to Nike golf balls.

This year, though, Woods has not had the magic he had in 2000. Although without a win, he still has finished among the top 15 in each of the five Tour events he has entered, with his best finish a fourth at the Buick Invitational in La Jolla, Calif. Two weeks ago, he lost the Dubai Desert Classic, a European Tour event, when he made double-bogey on the last hole.

"I think the guys now, with the equipment, are hitting the ball further, they're hitting it straighter," Woods said in a recent interview. "They're not necessarily hitting their irons better, but they're driving it so much further that now, instead of playing 4- and 5-irons into some of these pins, they're playing 7's and 6's (clubs that are used for shorter shots and offer greater control over the ball). That's a tremendous difference. It's not because they're stronger, more limber — it's just because of equipment."

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Tuesday, Woods rejected some golf observers' assertion that his winless streak constitutes a slump. "Well, it's annoying because of the fact that if you think that

way, then you really don't understand the game of golf," he said during a news conference at Orlando's Bay Hill Club and Lodge, where he will begin play Thursday in the Bay Hill Invitational.

"The standards he set last year are so high that this is relative," Nike Golf president Bob Wood says. "A lot of people would like to be in his place."

"Some of the gains (in distance by other players) has to do with both the golf ball and the metal woods. In Tiger's case, you're comparing apples to apples. He's hitting the same driver and the same ball he hit last year. Some of the guys who have gained distance have changed both the ball and the driver they're using."

Nevertheless, with Woods appearing human in 2001 while others put up Tiger-like driving distances and scoring numbers using the new Pro V1 ball, Titleist has become trendy again.

Titleist watched, waited

Titleist's dominance of the pro tours and the overall golf ball market is nothing new and not coincidental, company officials say. It has been the biggest winner on the PGA Tour since the late 1940s.

Players using Titleist brand balls annually won more than 160 men's and women's pro events worldwide from '97 to '99. The most wins during that time by all other balls combined in any year was 40 in '98. Titleist's victory total dropped to 133 in 2000, in part because of victories by players using the Nike ball. That's not much of a decline, but Titleist officials probably were paying attention.

The PGA Tour is "the ultimate test track," says Acushnet's Uihlein. "If your product works there, then it will work other places. And, success there gives you a high level of visibility."

So while Nike's ball was grabbing headlines last year, Uihlein and his engineers watched, waited and listened to the demands of players trying to keep up with Woods.

"We had to let the other guys go first," he says, "so we'd know what they had."

Behind the scenes, Uihlein had his staff working with the best pros, testing Titleist's new, solid-core ball and making adjustments. Although the impending launch was virtually unmarketed, among his staff, Uihlein called it the "100 Man March." On launch week in mid-October, he had 47 players using the Pro V1 at the Invensys Classic in Las Vegas. One of them, Billy Andrade, who hadn't had a victory in two years, won the tournament.

Three weeks later at the Tour Championship in Houston, Mickelson won using the ball, not only beating Woods by two strokes but also setting a scoring record for the event. When Weir won a season-ending World Golf Championship event in Spain in November, it seemed life couldn't get better at Titleist.

But it did with the early-season success this winter. Some players are claiming they hit this ball 10 to 20 yards longer off the tee than they did previously.

The U.S. Golf Association sets standards for the size, weight and other specifications of golf balls used on the PGA Tour. The Pro V1 meets these requirements. Though it would seem there is no cap on the distance technology could take a golf ball, former USGA testing director Frank Thomas says there is a limit to the distance a ball will fly.

"A lot of people believe you can build a golf ball that will fly 400 yards," Thomas says. "That's not true. If you remove all the standards, you'll get 15 more yards" than top players are currently hitting it.

None of that has reduced the excitement in pro shops around the country, where recreational players are clamoring for the Pro V1. Uihlein said Titleist hadn't

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intended to introduce the ball to the public until this month but moved that up two months after last fall's success. He says the ball market is 38 million to 40 million dozen balls a year. His goal is to get 10% of it, which means he's gearing up to produce 4 million dozen Pro V1's this year.

Pete Line, general manager at Carl's Golfland in Detroit, says he has sold approximately 100 dozen of the new Titleist balls in the past two months and could sell more if he could get them.

"The shipment I get never even hits the showroom floor," Line says. "They are reserved in advance. In 20 years, this is the hottest golf ball introduction I've ever seen."

As for Woods, who is preparing for The Masters in April, Nike executives haven't lost faith.

"Tiger is very focused on the major championships," Nike's Wood says. "He wants to peak at the right time. He had a season last year that was beyond human expectations. He's very close to winning this year, and I wouldn't bet against him."

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A fab five for the Pro V1

By James Achenbach

Five years ago, the Titleist Pro V1 golf ball was introduced to the public. Those who attended the PGA Merchandise Show in January 2001, got a sneak preview. Around the United States, golfers were about to be exposed to the ball that would change golf.

The long-term effect of the Pro V1 wasn't immediately clear, but soon enough everyone would know the truth: The high-performance solid ball had arrived, and the wound golf ball was on its death bed.

The Pro V1 was a solid ball that appealed to touring pros. Although it made its official tournament debut Oct. 11, 2000, at the InvenSys Classic at Las Vegas, it had been in development for more than five years.

Brad Faxon had been testing the ball off and on since 1996. Faxon's buddy, Billy Andrade, used the Pro V1 to win that coming-out event in Vegas.

"Five years," mused Faxon at the 2006 Sony Open in Hawaii. "That's an awful long time for a product on Tour to be around these days. Has it been the most successful ball ever? Probably.

"They took a long time to decide (to introduce it). There was a sound difference. The "click" was different, and Titleist was wondering if players would switch to that. Once the players saw, hey, this could give us a huge jump in distance, and we'll still have control around the greens, it was a no-brainer."

Distance came from a high-energy solid core. Control and feel came from two separate covers, an inner cover (sometimes called a mantle or casing)

made of firmer Surlyn and an outer cover made of softer urethane.

Solid balls were not entirely new to the PGA Tour. Spalding had pioneered solid balls and even predicted the demise of the wound ball. However, solid balls historically had been plagued by spin issues. Most didn't spin enough, while a few spun too much.

Greg Norman became a fan favorite at least in part because of the gigantic amounts of spin he produced with Spalding's solid Tour Edition. Ironically, he would later say this cost him several tournament titles.

As good as the Pro V1 proved to be, Titleist kept working to make it better. Thus consumers ended up with two basic choices: the original Pro V1 and the somewhat firmer Pro V1x.

Golfers with extremely high swing speeds sometimes say they get slightly more distance off the tee and perhaps a lower trajectory with the Pro V1x. On the PGA Tour, about

65 percent of all Titleist players use the Pro V1x. This leaves 35 percent for the Pro V1. The percentages are reversed for the public (about 65 percent Pro V1 and 35 percent Pro V1x).

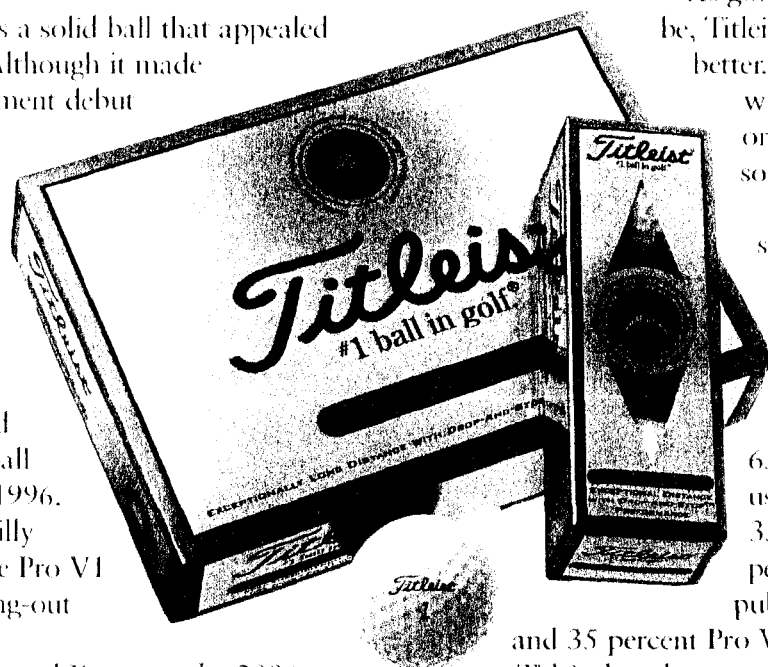
Titleist has shown no hesitation to place "improved" labels on the two balls, the original Pro V1 being "improved" three times and the Pro V1x once. The last time this occurred was March 2005, when both models earned improved status.

One more thing: Modern urethane-covered balls such as the Pro V1 seem to last forever. The outer covers do not easily scuff or shear.

"I went from using nine or 10 balls a round to using three balls," Faxon said.

As anniversaries go, this marks an important one, because the Pro V1 changed golf as we know it.

— Jeff Babineau contributed



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